

NATURE FROM THE HIGHWAYS

BY

H. MORTIMER BATTEN, F.Z.S.

ILLUSTRATED

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To
Sir Thomas
with the best and warmest
of Xmas wishes —

1925

NATURE FROM THE HIGHWAYS



THE SONG IN THE SOLITUDES.

NATURE FROM THE HIGHWAYS

BY

H. MORTIMER BATTEN F.Z.S.

AUTHOR OF "PRINTS FROM MANY TRAILS"

ILLUSTRATED

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Do you return Home tired from the City?
Do you ever long for the scent of the moist bracken,
For the rustle of the leaves in the quiet places,
For the murmur of cold streams,
For the soft droning of bees about the Heather?
Do you ever wish to be alone with Nature—which is
with God?

If so, this book is for you.

Put it aside on your bookshelf, and turn to it when
the country calls.

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NATURE FROM THE HIGHWAYS

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SONGS OF THE DAYBREAK

THAT the darkest hour is before the dawn is an old home simile, and recently walking along the road between Gifford and Saltoun, in Haddingtonshire, at that unearthly hour, I had a wonderful opportunity of observing nature's wakening. It was the dawn of April 21st, and at 4 a.m. or thereabouts it was not so much the darkness which impressed one as the deadly quietude. Such light as there was seemed merely to make the darkness visible, and my own footsteps sounded so desecratingly loud and hollow that I took to the grass margin. The fresh, sweet scents of spring were abroad everywhere, and on such a day and at such an hour, the most familiar land-

marks assumed a strangeness which presented quite a new aspect to the countryside.

Of bird and beast there was no sound, save that now and then through the coverts the raucous crowing of a pheasant came in subdued tones. He had the atmosphere to himself, for not even the bleating of a lamb vied with him. Then, all at once, things began to happen.

I do not know which of our wild birds is usually the first to waken. The saying—"up with the lark in the morning," carries a certain amount of truth, but it would seem that during bright nights in the spring and summer, the larks sing practically the night through. I have heard them in the heavens long before there was the least presence of daybreak, just as in the south the nightingales sing day and night, and therefore are the first to usher in the daybreak chorus. In Scotland, however, we cannot count the nightingale among our feathered songsters, and in the locality of which I speak, the lark was absent on this particular occasion. I would have thought that probably the robin, whose big eyes indicate the twilight feeder, would be the first to waken, but to-day it was a blackbird which struck the tuning fork. Clear, penetrating, and aloft, the sound smote the morning—those heedless, carelessly chosen notes

of the greatest of our bird minstrels. Wonderfully fresh and pure it sounded, the reveille of the April day, reminiscent of the stormcock's song when that cheery soul defies the cheerless winter day from the topmost tip of the topmost larch. It was worth being abroad at that hour if only to hear those first glad notes, full of all the joy and promise of a new day awaking.

But not long did the blackbird sing alone, for the very next moment I became aware of bird voices far and near. It was just as though Dame Nature had pressed a button and set a thousand loud speakers in action. I am not even sure that the blackbird was the first to sing. His song first struck my ears because it was the nearest and the strongest, but as I listened to its opening notes, the flood of song came pouring in from wood and hedgerow. So by the strength of bird sounds, it was but a matter of a few seconds from the silence of night to the full-blooded life of day, though I had covered more than a mile before the first of the many songsters showed itself.

A lady asks me whether I have noticed that the songs of individual blackbirds vary season by season. A blackbird sings in a bush each morning beside her bedroom window, and from the manners of the bird and its haunts, she is quite sure that it is

the same bird year after year. Three springs ago the song was quite an indifferent song, as blackbird songs go. Its repertoire was cramped, its delivery nothing to write home about. Last year it had acquired several new notes, and this year its song is as full and sweet as that of any bird she ever heard. It starts always with the three soft, flute-like whistles which are half the poerty of the blackbird's song, and which, she says, were absent until this year.

A well-known naturalist also comments on this. He told me that he is quite sure the songs of blackbirds vary with the locality. He says that the blackbirds in the next valley to his, only twelve miles away, have quite a different song from the birds in his own garden. This may be so, but it seems to me that every blackbird has a song of its own. All of them have much the same notes, but the manner in which those notes are strung together depends upon the individual. And as I have inferred elsewhere, one of the greatest charms of the blackbird's song is that he composes it according to his own ideas, and if birds know anything of sadness, this gifted songster must be subject to moods of melancholy.

Certainly I have noticed that the call notes of the starling are much influenced by his surround-

ings. Here in the hills the curlew call is a frequent starling note, and occasionally he rattles off repeatedly the "quashk" of the heron, one or two of which pass down the valley every evening. Visiting a friend in Manchester recently, I found that the starlings there have many notes which I have never heard in the hill country. Even the harsh noises of machinery may enter into the repertoire of the city starling, and here is an example. Opposite the house at which I was staying was a large open space, in the centre of which stood a foundry. At intervals there came from this foundry a repeated click-click-click, as of workmen hammering an iron bar into the ground with an iron-headed hammer, and one morning I heard a starling on the roof render this sound exactly.

THE SONG IN THE SOLITUDES

Among all our famous bird songsters, I think the notes of the blackbird are the mellowest and the richest, though admittedly they are somewhat clumsily strung together. The black-

bird has been variously criticised as a musician, and rarely over-rated, for one might say that his music is that of a master of melody whose execution is poor. To the nightingale almost the reverse applies. His notes are clear, but at times harsh and almost metallic. Heard near-to when minor songsters are at work, his song almost jars, but there are two reasons for its charm. The first is that it is generally softened by the distance, the second that the way in which the nightingale handles such instruments as he has is truly wonderful. He is a past master in the art of execution, but were his instruments those of the blackbird, he would deliver an infinitely more beautiful performance.

By this I do not mean to underrate the nightingale's song, which is fresh in my memory as I write. Only a few days ago, within a few miles of London, I heard one tuning up in a hedgerow at the roadside where we had paused for lunch. It was ten years since last I heard a nightingale, but his very first note smote the ears and seemed instantly to command attention. What is it in the song of this bird which renders it instantly recognisable above the general chorus?—and why is it that invariably the nightingale ceases to sing when one exclaims—"Listen! A nightingale!"

Ten years, mark you, yet that first silvery note stabbed the memory with instant recognition.

In the north we have no nightingales, but I for one would not give to the blackbird the master songster's song were that within my power. I have criticised the blackbird's execution, but I am not sure but that its charm lies therein. He has a song to sing, and he rolls it out idly, carelessly, heedless of technique—sings because he is glad in simple things—the old green earth and the clear blue sky, and so his song makes others glad. He is like a great minstrel among simple folk, taking up his instrument by the peat fire where the cauldron brews, there to ramble heedlessly through his repertoire because there is music at his soul, and in it he finds the utterance of that idle hour.

Every song tells a story, and we need to be glad for the blackbird's song, for in it lingers the scent of the wild primrose braes and the lush grass of the forest borders, while to me the song of the nightingale is that of southern orchards, moist from the evening shower, of carefully trimmed borders, and of the crimson ramblers that ramble about the trellis work of historic mansions.

But we have another songster whom comparatively few people know, but who shares at any rate one point in common with the greatest

of our bird singers, in that, as a rule, he sings alone. His song is like the stormcock's song, clarion-like and aloft in some lonely place where others are silent, and where only the cheeriest soul could find cause for song.

In voice, as in manners and in looks, the mountain blackbird or ring-ouzel is not unlike the common garden blackbird, but his song is wilder, as indeed it should be. Rain and wind and storm find their place in its gusty utterance, for the singer is a child of the storms, and he loves the dim and desolate regions where the shafts of light pierce the clouds, and fall in golden patches about the slopes. Not long ago I heard a ring-ouzel singing amidst just such settings, and it struck me that here indeed was a fitting piper for the kindly folk whose sanctuary it was. The clouds were low and broken, and the rugged corrie ran on and up into obscurity—a scene of depressing grandeur. Silence reigned save for the thunder of the torrent pounding into Glen Shiel, and save for that solitary and distinguished little songster in the branches of a rowan which struggled for life in a lean and cruel land.

Some impressions live on account of themselves, others on account of their associations, but I shall remember that mountain blackbird's song for both

reasons. It was like a shower of silver confetti falling from the clouds.

But what about those birds which are not famed as songsters, and yet whose notes are more precious than gold, in that no man wearies of them ? There is the sandpiper's treble and trill as he rises from the pebbly margin, and flies across the silver shallows on hooped and quivering wings. Finally he alights, and he himself unseen, he utters anon that sad, sweet note, slowly fading into the babble of laughing waters. I say that in every song there is a story, and was there ever a human song which found such certain utterance ? For here we have the wind in the lochside alders, the song of mighty waters which bring the salmon from the sea, and anon the hush of the river sparkling through the pines. To some of us the sandpiper's notes bear something more, for they bring the melody of our twelfth year or thereabouts, when first we learnt the charm of the great waterways, and when the possibilities of life were realised by the landing of our first kingly fish !

Then there is the dipper whose tipsy skylark melody tells of the mossy nooks about the waterfalls, the curlew whose siren-like notes are of the great spaces, the golden plover and the redshank, who sing alike of lonely moorland pools and the unending heather-

ed slopes. "Songs Without Words" were a human effort, but since all songs have a thought to voice, the great minstrel did not know that he wrote a paradox.

SOME SHEEP DOG ROMANCES

AMONG the many dumb creatures that serve mankind, the sheep dogs of our northern hills at least stand as high as any in the light of intelligent devotion. Their work does not come before the notice of everyone, because their chief sphere of usefulness is in lonely places. Their duty lies in the lands of great distances, where hundreds of miles of moorland and mountain-side lie unfenced, and where the shepherd would be hard put to it to gather his flocks, but for his dog. A good dog is able to recognise its master's sheep, and its keen scent and its untiring limbs enable it to scour the moors and bring them in, while the man, standing in some lofty place, issues orders from afar by means of certain whistles and by movements of the arms.

Here is a typical example. Watching from a high point of a Highland glen not long ago, I saw a shepherd and his dog working the mountain-side

opposite. The dog must have been two miles from its master, and was bringing a flock of sheep down from the heights. Suddenly the man gave a long, shrill whistle, followed by two short whistles. The dog stopped, then climbed to a boulder and looked long and carefully the way he had come. Then he turned and glanced for confirmation at his master, who repeated the signal—a signal which meant—"Get away back! You've missed one."

Instantly the dog set off back. Up and up the mountain face I saw him going, vanishing, re-appearing at a higher point, vanishing again, now a mere speck in the distance. Finally he passed out of my sight, and two minutes went by. Then, from among the clouds, I saw a white speck coming down the mountain-side, followed by another speck—the sheep dog, bringing the lost sheep back with him. Evidently she had hidden in a hollow when first the dog passed, but there was no escaping his second search.

A few minutes later the shepherd and his dog were driving their charges across the burn by way of a narrow bridge directly below me, and the leaders of the flock, having crossed, began to break away in the wrong direction. Without awaiting any order, the dog leapt on to the backs of the closely packed flock, and jumping nimbly



FROM A HIGH POINT OF A HIGHLAND GLEN.

from sheep to sheep he had crossed the bridge in a second, and turned the waywards in the right direction.

As they came up to me I remarked to the shepherd—"That's a good dog of yours. He knows his business."

"Yes," the man answered. "He comes of good stock."

Good stock! That, indeed, is half the business. The art of shepherding came to that dog as a natural heritage, handed down from line upon line of shepherd ancestors. Yet when I looked at him—a light-limbed, sombre-coated, drab little beast, at that moment full of watchfulness, devoting himself to the task in hand—I thought to myself—"Not much breeding, old man. Some people, indeed, would call you a mongrel, a yaller dog! And yet the choicest blood on earth!"

For when one saw his eyes it did not matter what colour he was, for truly has one of our wise men said that the eyes are the mind made visible!

The mongrel makes the cleverest sheep dog, and the cleverest are usually the most appalling mongrels.

That a good sheep dog is able to recognise each sheep in his care, and is able to pick out one of his master's sheep from a flock of a hundred belonging

to someone else, is illustrated by the following incident. I was walking through the pasture lands low down in the valley some time ago, when the shepherd whom I was accompanying noticed one of his sheep browsing in a field among those of the man who marched him. The shepherd turned and motioned to his dog, whereupon she leapt on to the wall and stood there a moment looking at the flock below. Almost instantly she spotted the truant, but as she dropped from the wall all the sheep bunched together, and it was wonderful to see the dog weed out the stray from the rest, long after I myself had lost track of it. Once separated, the truant, evidently knowing well her guilt, made a bee line for her proper pasture, leaping the walls with the agility of a mountain goat.

In winter, as in summer, these dogs are invaluable, for blizzard and snow are among the greatest enemies of the hill shepherd. In the high country the fury of the storms is beyond the belief of those who have never experienced them, for in an instant one is engulfed in a freezing gale, while the velocity of the ice particles is such that one cannot raise one's face, even if any features of the landscape were visible by so doing. One can usually see such a storm coming across the hills, and the shepherd, calling his dog to him, at once makes for

the nearest wall or some other feature he can follow. If he is unable to do this it is more than likely that, familiar with every boulder and ridge though he may be, he will completely have lost all sense of direction within a short time of the stunning fury of the storm bearing down upon him; and many a poor voyager of the hills has perished miserably in such an outbreak.

But so long as the shepherd has his dog with him no harm is likely to befall him, for the dog never loses its sense of direction, and will guide him safely home. And many dogs become wonderfully expert in finding sheep buried under the snow, indicating the place by scratching and whining. The sheep may be seven or eight feet down, and it is no easy matter recovering them, the man first ascertaining their exact whereabouts by thrusting a long staff into the drift.

In the spring of the year the sheep dog becomes a true guardian, for the mountain foxes are big wolfish beasts and much addicted to sheep killing. The shepherd is on duty at night-time as well as by day—camping, as a rule, in a hut or shake-down of some kind amidst his charges, and his dog, of course, is on duty with him. I have spoken of the power of heredity in these animals, and an inherited hatred of the fox is certainly theirs. Moreover, they know

that Reynard is the marauder to be looked out for at this time of the year, and are ever on the alert for any sign of his presence. I knew two sheep dogs which, working always together, killed several foxes during their lives. They were exceptionally fast dogs, and the fox who was to escape them had, indeed, to be a hard fighter. I have seen a sheep dog bristle and growl with the utmost fury on encountering the scent of Reynard, so wholeheartedly did he share his master's feud.

One night I was accompanying a shepherd in his cabin when we heard the bleating of a lamb coming down the wall side towards us. "That," whispered my companion, "is a fox!" and as we slipped out we were just in time to see the cunning marauder slide over the wall, flattened out like a rag!

Though the sheep dog may run endless miles by day, serving his master, he is as indefatigable as a machine, and often in the snows of winter I have read the story of his night wanderings. For example, I knew one sheep dog who thought nothing of a jaunt across the range after his day's work, and used regularly to make the trip (from Loch Tay to Glen Lyon), in order to see a friend in the next glen. The journey was one of eleven miles each way, and the track he followed ran over one of

the bleakest, wildest heights in all the Highlands, topping the range at close upon three thousand feet. The Sheep Worrying Act has stopped this sort of thing in many parts, and most of the northern shepherds are exceedingly proud of their dogs. Naturally, however, there are a few which are not systematically fed by their owners; they are left to pick up what they can, with the result that they are exposed to periods of plenty and to periods of hunger, and busy during the day, they have to forage at night time.

It is then, with the closing of the dusk and the closing of the doors, that the cloak of civilization drops from this Ishmael of the hills, and he returns for a while to the wild wolf from which he sprang. Upwind he goes, his head hung low, his nostrils quivering, sliding from shadow to shadow, as prepared to flee from the pathway of man as the wild fox which he hates. He may feast in a distant range, but assuredly he will have travelled many miles ere the dawn comes, perhaps alone, perhaps accompanied by some wolfish rover like himself.

At such times, especially when the companions be of opposite sex, perilous temptation is apt to come their way. They are hungry. A sheep rises at their feet, and flees like a ghost into the gloom. In an instant the blind exhilaration of the chase is

upon them—the instinctive bidding to live as their ancestors lived ages ago.

For the wild wolf is not yet dead in our domestic dogs. See how he turns to trample out a wolfish bed, how he buries food against a season of famine, and how, at times, he backs suspiciously from the very fire he loves, the wolfish dread of it reflected in the wonder of his gaze !

For the sheep killer there is no forgiveness, no reprieve. It is the darkest crime of sheep-dog lore. There is no cure, no breaking him of his ways—or rather, there is but one cure. If he lives, he will do it again, and once having fallen, the shadow of his guilt falls upon his children, indeed upon the man he has loved and served.

Somewhere there must be a book in which the name of every sheep dog is written, and here and there a name on the long list is marked with a black cross. That name is unspeakable. Even the man from whose lips it once came in pride and fondness now hangs his head a little and is silent when it falls upon his ears.

I have come across one or two dreadful cases of sheep worrying. Twenty-two sheep were worried one dark night within a mile of my own house, and a night or two later a similar outrage occurred a matter of twelve miles away. Over a hundred

sheep were killed in a fortnight, and in the end the culprits proved to be an Airedale belonging to a city visitor, and, alas ! a once dutiful little sheep dog, who, no doubt, had been led into the error of her ways by the city dweller. In the end they were caught red-fanged, and both were shot without question or quarter—eleven miles from their home village !

In the wilds of the Grampians some years ago an old driver died by the high road one night, and left as his legacy to the range his sole possession—his dog. For months this dog ran wild over the hills, and though seen by several people, it was off like a shot ere anyone could approach within range of it. All that winter it lived by hunting the hares and rabbits, and though one man was told off to devote himself entirely to hunting it, the creature evaded his many devices.

So far it had killed no sheep, but the season of young lambs was at hand, and the shepherds were in a state approaching panic. Finally they turned out *en masse*, every man armed with a weapon of some sort, and the poor creature, who by no fault of its own was beyond the pale of man's mercy, if not of his sympathetic understanding, was shot to bits within sight of the place where its old master fell. So here we have an example of a dog of

humble birth, which, though exposed to all the temptations of cold and hunger, and those things which turn honest men into creatures lower than beasts, did not descend to the crime which, since its puppy days, it had known to be a crime among crimes. There is, again, something pathetically romantic in the history of a creature which, having served one master, would look to no other for the friendship and care which every dog loves.

So much for the crime side of a life which as a rule is one of hard working and silent devotion. It is but a short life at the best of times, and looking back upon the dogs we have known and loved we recall only their gentleness and the things that endeared them to our hearts. It was, I suppose, one of the curses of Adam that man should live threescore years and ten and his dog little over a seventh of that time !

I knew one dog which lived chiefly by hunting the white mountain hares of his home range, going off alone when he was hungry, and so well did he know the habits of those whimsical children of the snow that he was seldom unsuccessful. Often have I read the story of his exploits in the snow, and invariably one reached a point at which that chain of diamond impressions terminated in a trodden circle, in the centre of which lay a tattered fur jacket.

He knew well that a mountain hare will sit closer when approached downhill than when approached up ; he knew well that the hares chose the slopes affording immediate immunity from the wind ; and so he was guided in his hunting by the conditions of weather which governed in turn the lives of the hares. No fox in all the range a cleverer hunter than he.

That dogs of all kinds possess another sense, commonly called the sixth sense, has again and again been proved, but I quote the following incident in order to show that their hearing is so keen that we are apt to be misled in attributing to them super-human powers. A dog belonging to a farmer friend used always to take up a position by the kitchen door ten minutes before his master entered the house, and to wait there patiently till the man arrived. The household said that he was able to "sense" his master's approach long before scent or sound could have conveyed the tidings, but subsequent inquiry revealed the fact that on leaving the main road a mile away the farmer was in the habit of slamming a certain gate behind his pony !

In Canada I knew a dog whose puppies proved to be the most awful mongrels, short in the leg and

blunt of snout, so useless, indeed, that the sieve and bucket was the only remedy for them. The wolf trappers had been very busy along that range, and many a mother of cubs had fallen to their traps and poisoned baits. For some time the dog who had lost her puppies searched for them forlornly, then it was discovered that she was nursing something in secret. One day she was observed to creep surreptitiously into the stick heap, and when subsequently the sticks were removed it was discovered that, hidden away in the back of the pile, she had a little wild coyote cub, about the age that her own puppies would have been ! Evidently she had found him wandering forlorn and alone about the range, and, the mother-love warm at her heart, she had taken him and hidden him, and there, secretly, she was mothering him.

The men had more respect for her feelings than again to deprive her of her heart's desire, and so the coyote grew up in his foster-mother's care. But a wolf at heart, the day came when he met a wolfish fate.

Another example of the strength of mother-love in these intelligent creatures came my way. A farmhouse changed hands, the entire stock, including two sheep dogs, going with the farm. The dogs were respectively the father and mother of a

promising litter of puppies, and with the going of the old order and the coming of the strange household, fear for the welfare of her family fell upon the mother. So she carried her puppies away, and for many days she nursed them on a wild little island in the stream above the farm. The other dog was seen often carrying food, evidently for his wife, and thus in a wolfish lair she nursed her wolfish brood till the strangeness of the new order had worn off, and she felt that they would be safe in the keeping of her new master.

If you desire to know the sheep dog of the ranges, go to a hill sheep fair, and there you will see him in every shade and degree. It is a most wonderful garden of animal character, for amidst the gay social whirl the disposition of every dog is readable in his face. Men do not show their characters so readably as do their dogs, but that there are as many shades and varieties among dogs as among men the visitor to the fair can see for himself.

Here is the dog who loves a joke ; see how his eyes sparkle and how he glances merrily from dog to dog. Here the poor little drudge of a bullying master, devoting herself to duty, with eyes for none save the man she serves. The bombast, the surly, the dog who loves a fight, the worker, the shirker, all are there, their characters laid visible for those

who would read, for at no other time does the sheep dog let himself go as on fair day. It is as much of a function for him as for his master ; but enjoy himself as he may for so long as the fair lasts, he is ready and waiting when his master's whistle sounds. In an instant the frivolities of society are forgotten, and he is once more doing his best in his daily way.

He is not a slave. Oh no ! It is his life, the work he lives for. Cold and hunger and weariness he may know, yet he is richer than the kings of the earth, for he knows the joy of serving. And some day when that strange lassitude he does not understand falls upon him, when a voice calls to him from across the snows, and he creeps away and hides in some little secret nook which he has long loved, surely if even the sparrows are numbered there is for him a resting-place, when at dawn the jewels of the frost are on his coat ?

CAN ANIMALS TELL THE TIME?

I ONCE knew a gipsy boy who, though he had never possessed a watch in his life, could always keep a timed appointment or tell you to within a few minutes what hour of the day it was. In Canada we used to plant a pole in the ground and place three white stones at measured distances round it. When the shadow of the pole fell across the first stone we knew that it was milking time, and after milking, breakfast followed as a natural conclusion. When the shadow fell across the second stone the cook used to ring the dinner-bell, and this being very important, we had a large and imposing white stone as befitted its place. I have a notion, too, that some of the boys used to move that stone a degree or two on the early side when they were specially hungry, and that the cook used to move it back at times to suit his own convenience. The third stone marked supper time, then a yarn round the fire and bed.

Most of us, I suppose, would make a very poor

shot if we were asked to guess the time in the middle of the morning or of the afternoon, though with a little practice we could soon learn to tell the time fairly accurately by the sun. But when the sun was obscured by clouds we should be "all at sea"—coming in for our meals too early, I suppose, and going to bed too late. It is because we always rely upon clocks and watches that we have lost the art which my friend the gipsy boy possessed, and which we could very soon acquire if we went to a country where such mechanical time keepers were not available. If you asked the gipsy how he told the time he would simply spread out his hands and laugh, saying: "Just know." He could not explain how he knew, but I expect he had learnt to measure time, as one can learn to measure distance; and the sun, when it was visible, helped him a great deal.

Many animals are very clever in knowing exactly what hour of the day it is. I once knew a farm dog which promptly at seven every morning and at four-thirty every evening used to march off on his own account and bring down the cows from the pasture to be milked. The gates were left open for him, and I don't think he ever had to be told when milking time came. When daylight saving was introduced it puzzled him a good deal, but quite

convinced that he was right and that everyone else was wrong, he stuck "doggedly" to his guns for a time, but eventually learnt to adapt himself to the new order.

It is not very surprising that domestic animals, with the affairs of the household to guide them, generally have a very good idea as to the time of day, but it is rather surprising that wild birds and beasts, who pay no heed to the coming and going of man, should many of them be just as punctual in their daily routine as we are—in fact a great deal more punctual than many households. Last summer, when in the evening I sat in my study by the open window, a woodcock used to fly grunting over the hedge within a few feet of me each evening just before our evening meal. There was no need to look at my watch. When I heard the bird pass it was time to put my writing away.

The heron is among the most punctual birds I know. One used to pass over my house just before sundown each evening, and on hearing his "all's well" note of "quask-quask" as he looked down upon the smoking chimneys of the village, I knew that it was time to take up my rod and basket if I too wanted trout for breakfast. And often towards midnight, when I left the riverside for home over the dew-drenched meadows, the heron's note

overhead, so fragrantly characteristic of the peacefulness of his calling, has informed me that it was full time all respectable anglers were betaking themselves to their roosting places.

At one time I used to motor to and from the station each morning and evening, and that autumn I used each evening to see a hare on his way to his feeding ground across the meadow. He was so punctual that I might have set my watch by him. If my train was to time he would be in the middle of the pasture—generally sitting up and listening as I passed. If my train was a little late he would have crossed the meadow, and perhaps I would be only just in time to see him pass under the gate on the other side.

The packs of blackcocks do not seem to care very much what the time is. They come and go as the fancy takes them, cheerfully hail-fellow-well-met, and one can never tell where they will be. The packs of grey hens (their wives), on the other hand, live their lives to the strictest routine, punctual to the minute in their coming and going. At 6.54 a.m., as the pale pink light of morning begins to stream down the mountain sides, they leave their cosy roosting place on the bracken slope, and fly down to the swamp at the north end of the loch. At about 7.54 they adjourn to a

certain sweet water spring that has never been known to freeze, and which is mentioned elsewhere in this book, and there, grouped about its banks, they sit for hours, resting.

At five in the evening we know that the grey hens will be coming down to the alder and birch groves to feed on the catkins, and prompt to the minute they come sailing by a certain white gate on the hillside to take their places in the trees. It is strange how the blackcocks and the grey hens live their lives so much apart that they might not even know each other.

Even the small birds of our gardens are very punctual in their habits, and when there is plenty of food for them, they take their meals at regular hours and will not touch scraps put out for them between recognised meal times. Their feeding hours are morning and evening, though in winter, when food is scarce, they are often only too happy to pick up what they can at any time.

The robin is perhaps an exception as regards regularity. He is always hungry, or if he is not hungry, he is always ready to eat what there is in case some other bird should get it. Similarly the talkative jackdaw is ever ready to swoop down on any morsel he sees, lest some other jackdaw or the rooks profit by the discovery.

A few minutes after sundown each evening hundreds of white gulls leave the mountain tops and fly over my house on their way to roost on the rocky islands of the loch. If it is a wet, dark evening they go straight to their roosting haunts, but if it is fine and bright they circle and soar in the heavens above the lake, and it is a wonderful sight to watch them. Thousands of them are in the air at the same time, wheeling and criss-crossing in their flight, or tumbling earthwards with wild screams in pursuit of each other, their wings flashing like golden swords or like tongues of crimson fire as they catch the light.

More than this—the gulls remember certain dates year after year. On Loch Ken there is each spring an enormous plague of an insect known locally as the Lowran Fly. These flies hatch out in such countless millions that for a few days each year every stone along the lake margin is thickly covered with them. The gulls come in thousands to feed on the flies, and always they are there, ready and waiting, two or three days before the plague begins !

All this being so, we have not much cause to doubt that the wild creatures can not only tell the time, but that further many of them know the day of the year ! What guides them we cannot of course tell. Rooks know when it is Sunday—know that on Sunday they can steal the poultry food

without fear of shot guns, but rooks are quite cute enough to take the hint from the early morning ringing of the church bells, or from the fact that the man who feeds the hens is garbed in his Sunday attire, so that here the mystery is explained. But the rest of it is beyond our explanation, a sealed chapter of that great book of mysteries which no man can claim to read throughout.

McEWEN AND THE EAGLE

DAYLIGHT had hardly dawned when McEwen, the shepherd, topped the ridge and found the old ewe lying dead in the peat hag, a newly born lamb beside her. So he was glad that he was astir with the first morning light, for assuredly the birds of prey or the foxes would have killed the lamb within an hour or so had it been left.

McEwen was bound over the hill to visit a neighbour, so, taking a piece of twine from his pocket, he bound the lamb's legs fore and aft, then placed it under a boulder where it would lie dry and screened from view till he returned from his message. Finally he filled in the crevice with tough ling plants, going his way satisfied that the birds could not get at it, and that the foxes, fearing a trap, would not try.

Thirty minutes later McEwen, gathering his plaid about him as he met the snowblast from the heights, topped the last ridge, and ahead opened out

a wonderful corrie with the white and jagged peaks on either side towering into the cloud banks, while the ravine extended ahead in a miniature Grand Canyon. His course lay down the corrie and into the next glen, but he had not gone far when a grouse came rattling by, flying fast and low, then another and another, then grouse in packs and strings for a period of three minutes or more.

The shepherd knew the sign well enough, and it was not very long ere he saw "his majesty" gliding slowly up the corrie towards him. Yes, there he was, recognisable from afar as he hung in the wind with never a movement of his great wings—now low over the heather with wings almost vertical, then wafting up, up, till he seemed to be level with the topmost peaks. The eagle came steadily on, passing over the man's head at an altitude of 200 feet or so, and the shepherd could see distinctly his extended flight feathers, could see even his bright but cruel eyes as he turned his royal head this way and that in alert watchfulness.

"Yes, you devil!" muttered McEwen viciously. "I'll get you yet if you come this way too often!" And as the eagle vanished over the ridge, flashing like a beautiful golden thing as the sunlight caught it, the shepherd was more than ever glad that he had found the motherless lamb.

Two hours later McEwen returned and went straight to the place where his orphan charge was hidden. As he neared the crag he saw the eagle rise from the heather, but concluded that it had been feasting on the dead ewe. Then he uttered a bitter oath when he found the lamb dragged out and partly devoured, while an eagle's feather in the ling furnished the condemning proof, if any proof were needed.

Well acquainted with eagles and the like as McEwen was, he could not make out how this one, flying high overhead, had found the hidden lamb, or, having found it, how the bird had dragged it out. That, however, was beside the point. McEwen possessed a deeply rooted hatred of eagles, inherited from a long line of shepherd forefathers, and it mattered not to him that the tenant of the great estate wished the royal birds to be preserved, nor that they came under the schedule of protected birds.

The shepherd went back to his shieling and returned a little while later with a spade. He left the dead lamb and the ewe just as they were, but on the downwind side he dug a hole in the peat deep enough to hide in ; also he placed a bundle of ling beside the hole, so that, when in, he could cover or rather camouflage his head and shoulders.

On the morn's morning McEwen was up before the day's breaking, and making his way towards his hiding. The moor is a strange place as the darkness begins to lift in the early spring, and there were voices everywhere. Hither and thither the red grouse flew, and the sharp "go back, go back" of the male birds filled the air, while occasionally there came in answer the deep rumbling notes of the hen birds creeping in the ling. Somewhere a redshank was calling, and a mountain blackbird opened up its sad, sweet song as the man left the rough pasturage behind him.

The hole was half filled with cold water, but that did not trouble McEwen unduly, so intent was he in purpose. With him he had an old muzzle-loader, heavily charged with shot and slugs, and now its deadly muzzle looked out from the hole under the crude roof of his hiding.

While there was still no light to speak of, a couple of ravens came along and began to feast on the carcass of the ewe. McEwen could just see them as one then the other occasionally popped up against the star-spangled sky. Presently a third raven arrived and asked permission to join the two already present. With much bowing and ceremony he was admitted to the feast, and by the time the east had brightened perceptibly,

it seemed to McEwen that a whole flock of ravens was feasting on the carcass. He had no special use for these birds, but he heeded them not, for to-day he was after nobler quarry.

It was now just light enough to see each individual bird, when suddenly one of them uttered a warning croak, and with a rush of wings they all made off, flying in different directions over the dark slopes. A stag and a parcel of hinds moved like ghosts on the windward side, but in a moment they too were gone, and for perhaps a minute there was silence. Then suddenly there came a sighing overhead, growing, fading, then a mighty swish of wings as Milord came down and settled upon the carcass of the lamb.

Man is born a hunter, and McEwen felt a thrill of triumph as he saw his prize before him. Yet, even to him, scion of an ancient feud, there came a sense of admiration as the royal bird slowly folded its wings, looking quickly around with eyes which seemed to pierce like needle points of light.

Slowly, carefully, McEwen levelled the old gun. Many a kingly life of the hills had it already shattered out, and one more did not matter. McEwen left nothing to chance. He aimed low to allow for the kick of the heavy charge, and he fired. The eagle was thrown backwards by the

mass of lead, and for a moment there it sat, its great wings with their wonderful history far outspread, its amber eyes fixed upon McEwen with an expression of savage and resentful reproach.

Away in the east the red rim of the sun appeared above the ridges. Its light caught the heights above, transforming the snow-fields into floods of scarlet. Down from the peaks it gushed in living cascades, deepening into the gloom of mauve and purple—like the life blood of Kings, for every peak was crowned with gold and set with a thousand jewels. Thus all around the Goddess of the Dawn lit up her fairy lanterns, and a hundred snow-draped heights floated like palaces of the air in a world of deepest shadow.

But the colour faded even with the echoes, even as the light faded from those amber eyes, and something arrested McEwen's hand as he raised the rusty barrels to strike the *coup de grace*. For there was no need to strike the blow.

McEwen was perhaps a poet at heart, as are so many shepherds of the hills, and no man, be he moorland bred or of the cities, could resist just one pang of regret on striking down a royal bird—one moment's realisation that he has taken something which he, nor all the princes of the earth, can restore, and something which was truly very

beautiful. Have not you and I felt it when, having stalked a Royal for days, we hear at last the vicious thud of the bullet, the click of metal against bone, and see a lovely thing plunging headlong to its doom among the crags? Is this the end of the chase?—this the crowning glory? Where now the lustre of the grail which shone before our eyes, leading us on, on, heedless of the comforts we love, forgetful of the wet and cold we hate, to hunt alone with the wild wolf of our dreams, or alone with God. Now all that becomes a fool's paradise. Where the beckoning glamour, where the shining halo of romance? But a fool's paradise, for the thing which was a life, radiantly majestic, incomparably beautiful, is now but a bloody mass of carrion, soiling the earth's purity at our feet!

So we hunt alone and we grow no wiser, for how soon the hills call again! We are weary for the sting of the rain, the cold touch of the torrent, and the manly things which were of man when he was young. And so we away once more into the wild and dreary places, to dream our fool dreams over again, and so again to taste the bitterness of success.

A moment McEwen stood over the dead eagle, then from the immeasurable heights above he heard

a short, sharp bark, but even as his gaze rested on the sailing atom in a rift between the clouds it vanished from his view. Yet McEwen knew that he had heard a sound which is among the rarest in all Wild Nature—a sound that he had never heard before, and would never hear again—the call note of a golden eagle.

Later in the day the shepherd tumbled a sack over the keeper's garden wall while the latter was pricking out his seedlings. McEwen nodded, the keeper nodded, then the shepherd went his way.

THE LANDMARK

AN atmosphere of romance always surrounded that branchless, lifeless tree. At its base it was little thicker than a man's thighs, for rabbits and the like had gnawed at it for many years, sheep had rubbed themselves against it, and boulders, loosened from the slopes above, had knocked huge chunks out of its rotten bole during the springtime landslides. Yet, stark and desolate it stood amidst its green settings, drilled and honey-combed by birds and insects, and it was said that for the migrating birds it served as a landmark. At all events, flocks of migrants could be seen and heard passing up and down the glen every spring and autumn.

The old men of the village said that the dead ash had remained unchanged since their boyhood, albeit the north-west winds whip into that glen with a fury unrivalled elsewhere in the hill country. Other trees had sprung up alongside it, and been

thrown to earth, while the rotten tree stood unchanged. Even forest fires had devastated the slope, but the old tree escaped with no more than a singeing of its fantastic and picturesque growths of fungus.

So this curious landmark became to some extent an object of superstitious reverence among certain of the quiet folk of that northern glen, and the old men began to rack their memories for some historic "fact" which might account for its durability. One of them at length remembered that in his early boyhood a gipsy woman, named Jane McVane, who was believed to possess strange knowledge as concerned healing medicines, and who made her living by packing her "dopes" from one hill holding to the next, had on a winter's night called at the shealing on the brow of the hill with a request for food. The shepherd had denied her, because he had none to give, and the old woman, cold and tottering, had made her way down the slope. At the foot of the dead tree she kindled a fire from the load she carried, there being no other materials at hand sufficiently dry to burn. All her herbs and healing roots she burned, even the pack that had contained them and her own spare clothing.

Then, having warmed herself a little, she assayed to cross the burn, but the rocks were ice-coated, and

she fell, and on the following day she was found lying dead in the shallow water not far from that place. Her steps, indeed, were followed up through the sodden snow to the dead tree against which she had sacrificed her wares to kindle a spark of warmth.

That, I say, was the story recalled by the oldest inhabitant, and since he topped the list by close upon twenty years, there was no one to argue with him; but when the old man advanced the theory that the life-giving substances of the old woman's medicines had entered the dead tree and given to it its powers, the young people laughed merrily, and the veteran historian retired to his cottage.

Yet the story stuck, as such stories do, and the tree became known as Jane McVane's tree, for at any rate it added another point of interest to the locality, and the tourist who brought with him his silver coin was told wonderfully varied accounts as to how it had come to possess its name.

But two facts are indeed facts concerning that tree—that it stood considerably over a century after the sap had ceased to flow, and that its falling was infinitely more mysterious than its previous existence.

One July brought a spell of terrific gales, and all over the country much of the sturdiest timber suffered. The old tree survived these storms, but

succeeding the final outburst there came a still, thundery spell, and one breathless night, when the wildfire ran riot and even the leaves of the silver birches were still, when not a breath of wind stirred and the minutest sounds carried far across the distance, there was heard in the glen a thunderous crash, followed by a silence more breathless than before. And when next morning the villagers looked from their windows over the sunlit earth, Jane McVane's tree lay prone upon the earth !

THE BRAMBLING

FEW people know this bird in a wild, free state —the brambling, or bramble finch, or Cock o' the North as you choose to call it, for it may be regarded as a visitor of such distinctly Alpine tastes that it rarely comes before the observer whose fields of observation are of ordinary scope. It is a bright little bird resembling the chaffinch in manners, but even more becomingly, if more ruggedly, attired, its upper parts black tipped with grey, its wings variegated with orange, brown, and white, and it is slightly larger than the chaffinch, and of sturdier, hardier build. The latter, moreover, has a charming little song, brief to be sure and not remarkable for originality of composure, though heard in the sunshine of a spring morning it is as fresh as apple blossom; but I never regarded the brambling as anything of a songster till recently I came upon a pack of them in a beech wood overlooking Loch Tay. As I

approached, they rose into the topmost branches of one of the trees, where their united twittering and warbling filled the leafless quietude with very welcome and refreshing music. It was a dull, stormy evening, and for some distance I had seen no signs of small bird life, but here, with the day's closing, it seemed all at once that the woods were peopled with fairy songsters which gave forth melody as the branches swayed. As a rule in the Highlands, if one sees the bramble finches at all, it is in the highest birch forests, where the trees are twisted by the gale and bearded with lichen, and it is more than likely that the birds I saw were passing migrants, driven down by the high winds during their northward trek.

The brambling rarely nests with us, and when it does so it seeks the topmost limits of the timber line in the wildest regions. The nest ranks with that of the chaffinch as being among the most beautiful and artistic in bird architecture; but generally speaking bramblings arrive here in varying numbers towards the end of September and depart during March and April. Normally, in the hills, one rarely hears the brambling sing, its usual note being the stormy, wind-born "chock-chock" as it rises from the heather or the alpine glade, and sits for a moment with feathers ruffled by the breeze,

then darts away, but in addition it has some very curious and deep-voiced notes, which might be mistaken for those of moorgame. By nature it is a cheerful little soul, but partaking of the wildness of its chosen surroundings, and though commonly kept in captivity, the brambling does not adapt itself to such conditions, as do such birds as the redpoll and the goldfinch, retaining always its distrust of mankind. Such birds as the mountain finch and the skylark are not well adapted to cage life, for their natural horizons are too wide for captivity to provide a happy order for them. And the sympathies of the man who loves the hills are with them.

THE FALCON'S CRAG

WE started from home bright and early, with every promise of a fine day. As the crow flies, the peregrine's crag is only about twenty miles distant, but hill roads have their own ideas with regard to leading to a place, and this particular road gradually fades into the rocky level of the landscape as it proceeds. In the end it is no more than a wash-out.

Our means of locomotion was a $3\frac{1}{2}$ horse power motor-cycle, fitted with a light sidecar. The body-work of the sidecar is regarded by a certain section of my friends as humorous—chiefly because it is covered with blisters and bristles senile whiskers from every corner, while its nose is tied up with cord owing to a calf having collided with it. I bought the sidecar for £2 10s. five years ago, and the whole outfit has endured more hard knocks and abuse than one would think it possible for any

machine to stand. It lives in a leaky barn nine-tenths of its life, and when we wish to visit some place which is only accessible by river beds and sheep tracks, Black Maria, covered with rust and festooned with cobwebs, is tickled in the carburetter, kicked in the ribs, and re-introduced to the daylight. My wife does not specially like the side-car, owing to the mice and the spiders which rear their young in the body-work, but I tell her that when some day she finds a clump of nettles sprouting out of the cushions, she will have real grounds for complaint.

We were not very long in scraping and rattling over the first twenty miles of road, but here at a fork, there is a giddy descent on to what is termed the Old Coast Road. Whether it is actually older than the coast I do not know, for there is not much to pick between them as regards rugged grandeur. Gates became numerous, and at every rise we obtained an entrancing glimpse of the still blue sea, with its numerous rugged pinnacles rising like a city from the blue depths. The gorse was everywhere in bloom, and its fragrance filled the air, mixing with the smell of seaweed and lubricating oil.

Incident number one was not of much moment. It occurred at a gate, and at the previous gate I had



PEREGRINE FALCON.



A GOLDFINCH.

taken my field glasses to view something in the distance, and was now wearing them over my neck, o. p. fashion. As I jumped off to open the second gate the glasses fouled the gear lever and jerked it into second gear. The result was quite extraordinary. The whole outfit reared giddily on end, hung there a moment, then charged the gate. Part of the sidecar jammed between the bars, and a debate ensued as to whether we should use the hammer on the gate or on the side-car body. In the end we decided upon the latter, as it appeared to be quite a good gate.

Soon water-splashes began, bunches of gorse sprang up between the ruts, the boulders became larger, and having been bogged once in a bog and once in quite a dangerous quicksand, the road began to get what one might justly term bad. Owing to the argument with the gate, the sidecar body had taken a permanent skew towards the east, which, as my wife pointed out, rather enhanced its natural virtues, for she was enabled to enjoy a straight view of the coast scenery while travelling parallel with it.

I suppose the peregrine falcon is known at least by name to everyone, though not one in a million has seen it alive and free. It is now a rare bird, though it clings here and there to an ancestral

stronghold—generally the highest and loneliest sea-cliffs, such as awe one by their grandeur and loneliness. It was such a place we were about to visit, and long ago the kings of Scotland obtained their falcons from this same cliff. So far as I know the ancient law reserving the young falcons bred there for the king's falconer has never been rescinded, but for obvious reasons I avoid naming the place, for this noble bird has suffered enough through over publicity by the activities of collectors and taxidermists.

At one time the peregrine occupied a position of the highest esteem among sportsmen of this country on account of its marvellous powers of flight and its dash and courage, but when falconry died out and the pheasant took the place of the heron, the peregrine fell from its lofty position to the status of common vermin. Yet it will ever be dear to the hearts of true sportsmen, for the peregrine is the most marvellous little flying machine in all wild nature, and, moreover, the bird is at heart a true sportsman. Rejoicing in its own powers it chooses to meet the fittest of the fit, and there is no doubt that it hunts for the joy of hunting—a spirit not unknown to man himself. To see a wild peregrine awing is to behold speed and grace materialised in a living creature, over and above which the rugged

grandeur of its chosen haunts surround it with a melancholy sense of glamour.

As an example of the bird's habits—a few days succeeding our visit to the cliff, an artisan going to his work at five o'clock in the morning down the High Street of North Berwick was surprised to see the pigeons rise *en masse* and fan out into the tower. Next moment he beheld a peregrine coming down the centre of the main street about a yard from the ground. The pigeons had seen him coming, but—too late. He rose vertically, ricocheted and corkscrewed round the tower, knocked the nearest, plumpest, haughtiest pigeon into giddy space, and went his way as though nothing had happened.

It was a broiling hot day, and, faced with the alternative of walking, we did not part with Black Maria till it was virtually necessary. For the last two miles we were deprived of even the luxury of ruts. Sheep and cattle lolloped through the fields in courteous attendance, having never beheld a motor-cycle before, and now there was only a footpath winding in a grey streak over the rocky undulations. At length the footpath dropped sheer into quite a considerable burn, then it breasted the opposite slope in a series of high steps. Here we decided to leave the motor-cycle, and we followed the burn to the sea. At first a high shoulder hid

the north coast from our view, but ascending it we beheld —the peregrine's cliff!

Such a cliff! Almost opposite to us the crags rose sheer from the sea a matter of perhaps four hundred feet, and immediately our eyes rested upon the place we would have known under any circumstances that this was the falcon's stronghold. Below the precipice, jutting out into the sea, was a rugged headland on which, to render its beauty complete, stood the remnants of a castle. The sea was calm, but a white smother of foam broke nevertheless about the rocky outcrops, and in the heat haze the whole scene was touched with the most exquisite colouring. As my wife said—"It is more than grand. It is truly awful!"

While focussing the Reflex for a comprehensive view of the cliff, I distinctly heard the wild, defiant chattering which once heard can never be mistaken—the chattering of a peregrine tercel disturbed from his rocky look-out tower where he mounts guard over his mate, and—yes, there he was, a black speck wheeling and darting in and out among the hundreds of white specks which filled the air opposite the cliff face. Sea birds of all kinds could be seen sitting their eggs about the shelves, and as the peregrine twisted and banked and wheeled among those awing, one then another would try

to buffet him as he passed. Thus it was not a difficult matter to single him out among the scintillating horde which filled the air like April snow.

A minute or so later we saw a shepherd appear against the sky at the brow of the cliff, which accounted for the falcon's conduct, and progressing by perilous ways, often with giddy space yawning at our feet, we eventually got round to the headland below the cliff. From here we looked straight up into the face, as it were, of those scowling heights, with their strange sea-faring folk and their still stranger history.

Lying down on a green patch of grass among the ruins, we took turns at the glasses, with ample time now to take in our surroundings, while ever the affrighted atmosphere was torn and rent by the cries of gulls—now peal after peal of crazy laughter ringing up from the hollow vaults, now the shrieks of a terrified woman, or anon the rusty creaking and clatter of chain hoists as the herring gulls squabbled among themselves. The peregrine tercel much resented our presence, and was constantly awing. Now he was gliding idly overhead, for all the world like a little fighting plane, then by a seemingly idle stroke of the wings he would dart through space with unsurpassed powers of acceleration.

Next the bird would suddenly dart seawards, a black speck diving headlong among the gulls, till it seemed a deadly collision in mid-air must take place. And instantly the yelling mob would close in on his wake, trying to buffet him, to grab his tail feathers as he rocketted by. Again that wild, harsh chattering would ring high and clear above the chaos of bird voices, but now milord was sailing skywards, leaving the vulgar crowd to their own vulgar devices.

One herring gull was specially persistent, diving and striking at the falcon every time he approached the cliff brow, and when eventually they passed out of sight together, the falcon sailing at his ease, the gull striving desperately "to sit on his tail," I said to my wife in vulgar parlance: "That gull will get it, sooner or later, sure as little apples."

It was a wonderful place, the fascinations of which would have held any country lover, and when eventually we set our feet to mount the cliff, we felt that we were leaving behind us a strange world, into which the ordinary aspects of life do not enter.

We had reached the summit, and were reluctantly turning our faces from the sea when we noticed a herring gull lying dead in the heather amidst a litter of its own feathers. We took it up, a very beautiful creature in its springtime garments, half

the size of an albatross, and as we held it in our hands more feathers fell to earth. The body was still warm, and on one side of the neck there was a deep gash, so that the strong neck was almost severed.

How had he died ? Need one ask ? The tragedy had evidently occurred just beyond our line of vision. We were sorry for the gull, yet in a way our sympathies were with the peregrine. Gulls are vulgar brutes ; they are the Bolsheviks of the bird world, and it must be distinctly trying for one of truly royal blood to be set upon by a crowd of noisy plebeians every time he leaves his ancestral tower. Indeed, can one wonder at it if eventually he turns and strikes down the ring-leader ?

When we got back to old Black Maria, we found a bevy of frivolous calves in possession of her. One was scratching his ear against the exhaust valve lifter, another leaning sentimentally against the sorely tried sidecar body. They had fully appreciated the presence of Black Maria as a rubbing post, for calf hairs were jammed in every crevice of the various controls. On the journey home, which was uneventful, I blew my horn at a rabbit, but the horn would not work. There was nothing unusual about this, as the hay seeds are apt to stick in its thorax, but this time it gave

forth a sound as of laboured breathing, and I was aware of a cold blast on the palm of my hand. Examination showed that a calf had bitten clean through the bulb !

STRANGE GARAGE PETS

A FORD delivery van, owned by a Highland tradesman I knew, had been stored all winter while the hotels and mansion houses were empty, but with the melting of the drifts the van was taken out in readiness for the season. It was then discovered that a robin had built her nest under the canopy above the driver's seat, and the beautiful little structure was now complete with five eggs, which the parent birds were sitting.

The driver of the vehicle, being a kind-hearted lad of about sixty-five, decided to leave Nature to pursue her own natural, or rather unnatural, course. The old bird sat tight while the car was pushed out, but the starting-up of the engine was more than she could stand. She flew off, and the car was away an hour or so. When it was brought back to the shed the robin returned to her eggs, and though next morning she again flew off when the engine was started, she went back almost

immediately and took her place above the driver's head.

Thus began what was surely a unique experience in the history of a mother robin. The car was out all day visiting distant glens, and from that first day on, the bird went the round with it. Soon she came to know the routine, and adapted herself with becoming stoicism to the strange order. At one lonely village store 2,000 feet up, she would fly out when the driver dismounted and search the grass plot for insects, also visiting the stream for a drink. At another point, the last pub en route, at which the driver always dismounted to fill his petrol tank, she would again fly off for a scrap with another robin which was nesting in a stone-ginger box by the side door of the premises. So the bird set herself a more or less fixed routine, and seemed quite to enjoy the life; but meantime her husband, left a grass widower, haunted the motor-house with a forlorn and dejected cry, between intervals of hunting for wire worms. As he peered into the empty shed with head askance, one could almost hear him speculating: "What if they burst a tyre or break an axle away back in the hills!"

So the days passed, but one morning the driver called at my house and solicited advice as to the

future. Though things had progressed all right so far, he wanted to know whether it would be possible for the old bird successfully to rear her brood under the gipsy conditions circumstances had imposed, and I was compelled to admit that the prospects for the future were certainly somewhat hazy. Under normal conditions it takes the old birds all their time to keep pace with the demands of the chicks, and one could not foresee how the mother, unaided, travelling nine tenths of the time, could hope to keep her family going.

So, after the fall of darkness, we went to the motor-house, armed with a pocket flash-lamp and with muffled breath, and very carefully, very gingerly, we lifted the nest, complete with mother robin, from its present anchorage, and established it in an angle of the rafters about one foot above the position it had occupied when the car was in the shed. This worked perfectly, though the parent birds, not content to rely on our judgment, re-built the lower portion of the nest, anchoring it to the rafters in such a way that it might have been there from the first. The chicks were hatched a day or two later, and the strange little episode ended happily.

But the boys of the village say to this day that the mother robin would not have allowed herself to have been lifted *in situ*, but that old Dan, the

driver, accidentally breathed on her and intoxicated her !

This case was not unprecedented, for I remember reading in my boyhood of a robin which built in one of Pickford's vans and daily went the round of London city with the parcels.*

THE CLOSED WINDOW :

An incident with a less happy ending occurred within my own experience four years ago. It was a keen winter in the hill country, or rather November brought an exceedingly keen cold snap. For a month or so previously a blackbird had taken to roosting in my motor-house, perching on a rafter immediately above the radiator of the car— attracted, probably, by the warmth, as the car was regularly garaged for the night about sundown. When the very cold weather came I decided to close the small window to keep out the frost, thoughtlessly forgetting all about the poor bird which had come to regard the shed as his natural sanctuary.

How easily a simple act of this kind can result in

* Later: A Canadian robin built this year under the eaves of a Trans-Continental Pullman, and reared her brood while travelling back and forth on her four thousand mile journey.—H.M.B.

tragedy for the Wild folk, for the next morning I found the blackbird, with wings rigidly outstretched, lying dead in the snow immediately below the closed window.

What had happened ? Had he collided heavily with the glass, falling stunned, whereupon the bitter cold claimed him ? I am afraid not, for the glass above showed that he had tried long and patiently to get through, and probably he fell at length from exhaustion.

A MOUSE AS GARAGE MATE :

Early this past winter a somewhat unusual experience came my way—or rather I imagine such incidents are fairly common, though they are rarely noticed. My present motor-house has no artificial heating, and is so sheltered in position that none is needed. As a rule the car is run in thoroughly warmed up at about four in the afternoon, and it is rarely taken out till the following morning. One morning, on taking the vehicle out, I saw a mouse run from beneath it, crossing the yard in a series of hops, and disappearing among some empty oil-drums in a corner of the motor-house. It was a large mouse, but of what species I never knew.

Precisely the same thing happened the following morning. No sooner had I backed the car across the yard than the mouse appeared from below and wafted to the self-same corner where the oil drums stood. This went on for at least a fortnight, and the most curious thing about it was that the mouse never left the car till it was across the yard. On cold mornings I regularly started up the engine five minutes before leaving the shed, having the radiator covered, but the mouse never forsook his resting place till the vehicle was actually en route. Finally a sense of curiosity as to where the little creature was hibernating led me to investigate. Was he undermining the upholstery? Should we some day find a colony of mousettes established amidst the internals of the upholstery? My fears in that direction were ungrounded, for after a long search I discovered that an old duster had been left at some time in the tray under the engine, and in that duster the mouse had made for himself quite a cosy little nest. I left it there, but after my handling it he never returned.

A nautical friend pointed out that this was certain indication that my petrol system was sound, reminding me that on petrol-propelled sea craft tame mice are sometimes kept as a warning against stray fumes. Certainly, had there been any petrol fumes

going, this mouse would have got them, so that the incident was quite a good advertisement for the makers of my carburetter.

A PERSISTENT VISITOR :

But, to quote still further from my own diary, one of the most curious garage "pets"—if such he might be termed—was a hedgehog. This occurred in dead of winter—a cold, wet winter, when by all the laws of natural history and common good sense the hedgehog should have been sleeping. But evidently his hibernating den had proved unweather proof or draughty, or perhaps his wife had taken a fancy to it and turned him out, whereupon he found his dejected way into my motor-house, and decided that this was just the spot for which he was looking.

Not having an Albert or a Henry to keep the place decent, all manner of oddments are prone to find residence in the corners of the shed, and in one corner reclined a number of old sacks. Noticing a hiatus, I turned the sacks over, and behold—Mr. Prickles, comfortably ensconced!

I did not intend to evict him, but having thus been disturbed he went of his own accord, which

was just as well. Next, however, he tucked himself up in a towel which chanced to fall from its roller behind the laundry door, and the cook, finding him there, uttered a howl of dismay and dropped a tray of clothes pegs. This time he was ejected by dint of the kitchen broom, but even that did not rob him of his affection for the place. Duly I noticed a bundle of hay in the only otherwise unoccupied corner of the motor-house. It appeared to have drifted in with the wind when the doors were open, but investigation again revealed—Prickles ! He was now so sound asleep that he lay back upwards breathing wheezily, and what to do with the lubbarded villain I did not know. In the end we packed him in a special box with plenty of hay, tacked down the lid, and left him in an outhouse accompanying the hen corn till the spring came. The lid was then removed, and some days later a trail of hay across from his box to the door indicated that Prickles had gone, taking most of his bedding with him.

UNWELCOME VISITORS :

But these mild experiences fall into insignificance compared with that of the head chauffeur of a

well-known North Yorkshire family. Among the various cars attached to this country establishment was a 10 h.p. two-seater, kept for the private use of the lady of the house. But, as a matter of fact, her Ladyship rarely drove it, and the little vehicle, crowded out of the big motor-house, had been allowed to vegetate for some weeks in an outlying barn.

When eventually the head chauffeur went to start up the forgotten car, he noticed a constant stream of wasps flying in and out of the bonnet louvers. Very cautiously he raised the bonnet, and beheld to his consternation a huge globular paper wart, suspended from the Autovac! It was, in fact, a hornet's nest. Duly the entire staff, including the head keeper and the under keeper and the gentleman who looked after the drains, held a council of war, and in the end the head keeper, clad in a bee-tamer's gloves and veil, poked away the malignant appendage with a clothes prop.

But, alas, no good came of it. For several days succeeding no one could go near the barn. Angry hornets invaded the kitchen and stung the cook in the ear. Meantime the hornets rebuilt the nest, this time on much improved and more extensive lines.

An idea then occurred to the under chauffeur,

and at dead of night it was carried into effect. The appendage hung directly below the drain tap of the Autovac, which, it might be safely presumed, would still hold a pint or more of petrol. Thus, with breathless stealth, the tap was given a quarter turn so that it dripped at the rate of about two drips per minute, and every drop dripped upon and was duly absorbed by the paper globe.

Next morning the nest was lifted bodily and intact from its place of anchorage—a nest full of dead hornets! Yes, dead, every man jack of them—asphyxiated, drugged, gassed, bloated and sodden, and the under chauffeur grinned a wide, wide grin.

CHILDREN OF THE STORM

ANYONE who has toured the Highlands cannot help but have noticed those wild-looking people who are known throughout the hill country as tinkers—or more commonly as “tinklers.” Dark-eyed, dark-skinned, their black hair as often as not blowing wild in the wind, these Highland gipsies are a noteworthy race to themselves, nor are they to be found far beyond the borders of the ranges. In many ways they seem to be associated with the better type Indians of the Canadian forests, for at heart the Highland gipsy is a hunter, and at heart he is most assuredly a wanderer. In our world, homelessness is regarded as the saddest condition of life, but though the tinker is truly an Ishmaelite, he in many ways is richer than the kings of the earth. For his kingdom is unbounded, his home is everywhere.

The needs of the gipsy are few. His ingenious little collapsible wigwam—built of hazel sticks

which pack into a neat bundle—he carries over his shoulder, or not uncommonly in a very dilapidated perambulator—a stew-pot, a frying-pan, a blanket or two, and something in which to draw and to carry water. Some of the families are, of course, better off than others, and while the poor gipsy may be seen packing everything shoulder high, the better-to-do members of his race, who are certainly in the majority, have their pony and some kind of cart on which their goods and chattels are loaded.

In almost every glen one sees the gipsies camping, and their love of bright colours generally lends a touch of the picturesque as one passes by—the little squat wigwam under the birch trees, the smoke curling leisurely from their fragrant wood fire, which is arranged to throw its heat but not its smoke into the tent entrance, and away in the background a line of clothing slung out to bleach above the bracken. It has often been a mystery to me how such large families squeeze into such limited space, for I have known a single tiny wigwam to afford shelter for the father and mother and as many as five children.

Invariably these people camp under the trees, which in our circle is considered the sign of the tyro camper, and certainly damp and cold seem to hold no terrors for them. Throwing an armful or two of

brushwood or heather or bracken upon the ground, they place their floor mattress upon it, and this occupies the whole floor space of the tent. On it they squat while the daylight lasts, and at night-time they sleep with little or no additional covering.

I must say that the gipsy camps I have visited have always seemed dry and snug, no matter what the weather, for naturally these people, living their nomadic lives the year round, know well how to take care of themselves; but nevertheless, the conditions of their lives would be an unending privation for a less hardy race. We know what the weather is in the hill country, with its days of drifting damp, gale and driving rain, with its drip-drip-drip from the birch trees till there is not a dry corner anywhere, and it is useless to pretend that for all his knowledge of woodcraft the gipsy is able to live dry and warm when the weather gods decree otherwise.

Not long ago I was motoring over what is one of the wildest roads in the Highlands—from Glen Moriston over the heights by Clunie Inn and down Glen Shiel to Dornie. Anyone recalling this road is sure to remember its appalling solitude and its almost terrifying grandeur, and on the occasion in question a gale was blowing and the fury of the rain was such that it would have been almost im-

possible to face it. Our own car was of the weather-proof variety, yet the rain drove in through the wind-screen and even through the crevices of the doors, while for miles on end the vehicle could hardly make headway against the gale and over the flooded roads. And there on the height of land, the bleakest, wildest stretch of all, we met a tribe of gipsies.

Poor creatures ! Trudging ankle-deep, their hair plastered over their faces, the water streaming from their clothes. One woman carried on her back, wrapped in a shawl but with its bare head exposed to the storm, a baby of perhaps seven months, while one of the men had a three-year-old girl mounted on his shoulders. Every rag they had on them must have been saturated through and through, and even their packs, carried aboard their ponies—which looked as wet and wretched as they did—were surely sodden to the last item. Truly that wild-looking band seemed to us as we passed by to be the storm spirits of that desolate place. Returning the same evening over the same route, we found the whole tribe camping in the birch forests of Glen Moriston, where they had several good fires blazing, albeit the forest on every side was actually a swamp. We asked them how they had liked the weather, and, while ack-

nowledging that it had been a bad day, they said optimistically that they had not come off so badly, since the storm was behind them. Certainly the baby seemed merry and bright as he squatted in the warm firelight, his little naked-footed brothers and sisters seated about him, and when I asked the man whether he had carried the little three-year-old all day, he nodded gravely.

"Are ye no' tired, mon?" was the question that leapt to my lips. He grinned, and here the woman joined in.

"He always carries her when the goin' is rough," she said. "She's nae sae guid on her feet as the other weans."

Somehow one had not to look long at the little, simple, copper-coloured face to understand *that*, and the question flashed into one's mind: "How long, little sister, will you weather the hill storms?"

So we left the camp, with its tang of pine fire and its scent of rich broth brewing in the pans. Here surely was a poem of life and love—the wild-eyed, ragged man of the hills carrying through life's storms that sweet, sad-faced little girl. "He always carries her when the goin' is rough!"

How do the gipsy folk earn their living? That I have often wondered, for it is characteristic of them to shun regular employment. A few of the

better men sometimes work in the forest, but not all of them ; yet they live, and they live well, and though some of them know hard times, such is the sense of brotherhood among these people that while there is food to share none goes hungry.

Some of the families are quite prosperous. One old woman used regularly to call at our door to sell her baskets or to take household articles—chairs, mats, wicker-work of any kind, pans, etc.—to repair. She was quite ready to sharpen your knives or your scissors, to repair harness, or, indeed, to do any odd job that happened to be going. Her husband used to go round the inns and the bothies with his bagpipes and pick up small silver in that way, while I was told on the strict q.t. that if ever I wanted a quarter of venison or a salmon, or even a local product of more potent properties, all free of duty, I might do worse than drop the hint to old McJan.

These two old people were about the valley all winter, camping in one of the glens, and often I used to see them returning at dusk together, each carrying a huge bundle of willow saplings or of rushes for their basket-making. One wintry spell the old woman came to our door with a very woeful story and with what was surely a pint bottle under her shawl. She said that her husband had been

taken bad of his stomach while crossing the hill, and that they were sorely in need of new milk to set him right. Could we spare a wee pickle?

"But, Jessie, we have to buy our milk," I told her. "Why don't you do the same?"

This, of course, led to another story of miserable want and poverty, and when she had finished it I said: "But they tell me, Jessie, that you own several cottages in the village of——, and that you have at least £300 in Victory Bonds."

At that she stared hard, demanding who was my informant, and finally she trudged off.

But she did not deny it. It was true!

That spring Jessie and old McJan moved away on their lifelong pilgrimage, and the following autumn old Jessie came back alone. McJan had squeezed the last squalling squeal out of his bagpipes, and a well-known figure of the glens was gone.

Not always, however, are the gipsies able to wander from day to day, for the law demands that they educate their children, as is the case with other people. When this befalls them, they make camp in some out-of-the-way place near the school, and there they remain for so long as the session lasts. A few remain in the same locality for years, so that they become well known and in some cases

even respected. The best of them do not beg from the poor, but they have no scruples in begging from those commonly lumped as the rich, and they are past masters in the art. So if one wears more or less respectable clothing, it is difficult to come to know these children of the hills as the sons of the shielings know them. At heart they are a kindly and generous people, but those who tread another walk of life cannot help but regard them as a nuisance—so rarely are they seen in their true setting. I remember one wild evening returning from the deer forests and sheltering at one of their camps, and within the light of their fire there seemed a very homely glow. They told me in their soft lingo many interesting things about their lives, into which entered the love of children and a very bitter hatred of the police. I was their guest, and they pressed me to take broth and oatcake, which I did, and never once was there any hint of begging. I handed my tobacco to the man, and he filled his pipe solemnly and without thanks, handing back the pouch. I offered him more of the weed in my fingers, but he refused at once; then, as I continued to hold out the tobacco, still without comment, he finally took it and stowed it away in his little time-honoured tin box.

One day I stood admiring the beautiful war

memorial above Killin village. Heather and alpine roots scramble about its base, and it holds a quiet position at the river-side away from the last row of white-walled cottages. An old gipsy woman sat in the gutter near, and I said to her : " It's a beautiful memorial ! "

She nodded gravely. " Aye," she said, " and in the right place. One can sit here and think one's ain thoughts."

One young tinker for whom I was once able to do a passing good turn brought me for weeks after bundles of spills for pipe lighting. They were cleverly shaved, and made of some wood which gave off a sweet-smelling smoke—a poor man's gifts, which were highly valued.

A friend of mine—a Highlander—showed me a razor sharpener which a gipsy had given him a number of years before. It was made of some kind of rock fungus, and its toughness and durability would seem to substantiate the report that the fungus takes over a hundred years to mature. When treated by the gipsies it is more durable than leather.

Though seen by the tourist in no other light than as professional beggars, we need to remember that there are many shades and degrees of these people. All sorts of flotsam and jetsam drift from the

harbours of Glasgow and elsewhere, or from the sinks of northern England, and, establishing themselves on the hill roads, they are commonly classed as tinkers. But there is no mistaking the true tinker. He may be out at heel and unkempt, but he takes care of his womenfolk, and they at any rate support the colour of their race. The men for the most part are an idle, shiftless lot, as is so with such people the world over. They depend mainly upon their women, and the lower the type the more strongly does this apply. The women it is who weave the baskets, who pitch the woeful story, and who do the begging.

The children simply run wild. Their clothing is of the scantiest, and perhaps as well so, for therein probably lies the secret of their hardiness. Invariably they remind me of little wild ponies running free across the hills.

The true Highland tinker loves a bargain, but he is quite ready to pay. When taking one of the photographs which accompany this chapter a voice from inside the teepee invited me to bide a wee, and presently a woman came out. She asked if she might bring the horse into the picture and be taken alongside it, as she had a brother in Canada to whom she had long wished to send a photograph. Of course we agreed, and when the exposure was



A VOICE FROM INSIDE THE TEPEE INVITED ME TO "BIDE A WEE."

made she approached us quite seriously and asked us what our charge would be for the required number of prints. We explained that we would be glad to send her the photographs, but that we were not professionals in that line ; but since she wanted the prints for her own use, she was genuinely ready to pay for them, and, moreover—what surprised us most—to pay cash down !

Why was she so keen that the old white horse should figure in the picture ? Was he a beloved member of the family who for years past had accompanied them in their wanderings ? Perhaps so, perhaps not. For we need to bear in mind that with the gipsy folk the possession of a horse is the outward and visible sign of prosperity.

Naturally these people have from time to time been dragged into the dark alleyways of crime, cat's-paws of unscrupulous scoundrels, and in that capacity they have figured not infrequently in much of the great literature relating to the Highlands. They have been painted as ready to undertake anything at their own price, but so far as I am able to judge these people, they have a very great dread of legal punishment. What prison must be to so free a race we can only imagine, and almost every tribe one meets has some story to tell of one of its members who was unjustly imprisoned because—

“well, just because we are tinkers, we are under suspicion, and when the law comes we are helpless to resist it.”

Many of these stories must be true, and when one ponders how many wolves in sheep's clothing are to be found in another sphere, known to their fellow-men yet still free to prey upon them, it causes one furiously to think !

So much, then, as a passing glimpse of these strange and romantic people, in whose dark hair glisten the jewels of the hill storm, and whose faces are towards the east till the noon is past, when westwards they toil towards the sunset. I personally cannot think of them without calling to mind their children, for—what a life for a child ! Free as the wind, free as the wreaths of vanishing mist which so often shut off their horizon, free to cross the burn when so they choose, to run bare-headed heedless of the storm, to tread at break of day the dewy woodland path. For to them the fetters of shoes and stockings are unknown. Hunger they may know at times, but it is passing hunger, and perhaps it would be a cleaner and a kindlier world had all men known it.

So, with the scent of the pine fire and the fragrance of the heather, from childhood to youth, by

the stony hill pathway, and so to love and to marry and to start yet a new chain of footprints across the hills. We burden our bodies with heavy clothing and our minds with a thousand unessential details ; we build up our fortunes and squander them, or we die and leave them to others who had not earned them. Is not the life and the goal of the tinker just as high ? For his at any rate are the riches of God's green earth, a freedom unfettered, and these he hands on to his children as a great and natural heritage. Damp and cold are nothing to him, and so the storms may sing a melody we cannot hear. When he takes a white hare from his snare or cleeks a salmon from the boiling cauld, he returns to his wigwam happy and satisfied in the manly sense of having at least paid his footing for the day, and earned his sleep for the night. So truly is he among the blessed, for he nurses never a thought for to-morrow.

THE WEASEL IN THE HEDGE

A YEAR ago from the date of writing I was motoring within a mile of the village of East Saltoun, Haddingtonshire, when in the centre of the road ahead of the car a little cluster of living creatures was seen. At first it was taken for a mother adder and her young, and mental speculation ran high as to whether the mother would meet the emergency by furnishing evidence of her powers to swallow her brood, thus achieving an easy means of transporting them from the danger zone. But the object of interest proved to be a mother weasel with her four kits. The latter had their eyes open, but were too young to make their escape, and a fine example of wild mother heroism was provided by the mother refusing to leave her brood even though the vehicle passed clean over them (between the wheels, of course).

Stopping the car and going back, I witnessed an

astounding illustration of the innate ferocity of these creatures, for though too young to run away, the weasel kits took little toad-like leaps at my boots as I approached, hissing and screaming, and on my handling them they bit my gloves with such fury that their mouths became red with their own blood. Throughout this examination the defensive musk stink was so strong as to be almost nauseous, while the mother threatened several times to run up my clothing.

On the day of writing, as a curious sequel, I met with a very similar experience. Motoring between the same village and Gifford, my curiosity was roused by a sound in the dense hedgerow within fifty yards of the point at which the railway metals cross the road. Thinking it to be a young bird in difficulties, I stopped the car and went back, and regaining the place the sound was at once recognised as the cries of a young weasel. Parting the foliage I could see the little animal in the centre of a dense thicket—crying loudly the while, evidently being “out of its depth.” It was fully four feet from the ground, and its presence there goes to illustrate the destructiveness of such creatures to wild bird life. This weasel was quite old enough to hunt for itself, and I have no doubt whatever that it had separated itself from its mother and was hunting for fledg-

lings. Incidentally an adult weasel had crossed the road carrying a mouse just as we approached the metals from Gifford and within eighty yards of the kit.

Reaching into the hedge I caught the young weasel by the skin of the neck and lifted it out. At first it offered no resistance, then realising itself in the grip of an enemy its cries took on a different note, and in spite of my precautions it managed to close its jaws on my fingers "to the effusion of blood," as the police court news has it. So quick and wiry was it that I had the greatest difficulty in retaining my hold, while the weasel musk taint was again almost unbearable. The little animal was duly wrapped in a duster and stowed away in the tool box of the car. It is still in my keeping.*

The most impressive feature of these two experiences was the convincing illustration provided of the powers of the weasel to use its musk glands as a means of defence. Subsequent to the first experience, the gloves I used stank so abominably that they were placed aside in a windy place till they had lost their taint. On the second occasion not only my hands but my entire clothing became

* Subsequently became quite tame and easy to handle. No scent noticeable under ordinary circumstances.

permeated, and had there been room in the back of the car, my front seat passenger would certainly have taken refuge there. For several hours later the musky, nauseous taint pervaded my nostrils, and even at the moment of writing it is by no means beyond recall.

All the weasels have these musk glands and the power to use them—except, possibly, the pine marten (designated sweetmart to distinguish it from its musk-bearing relatives), and I am quite convinced that they use the scent in their hunting in order to terrorise, as well as for defensive purposes. The glands are located on each side of the anus, and the ducts from them are hidden away within the rectum. It is a known fact that in the case of the skunk they can be protruded for service, and during both the experiences described it was noticed that the rectum was protruded and distended, so as to bring the ducts into action, in the precise manner adopted by that past master of evil aromas, the skunk.

I may add that the weasel taint is just as vile as that of the skunk. Though not so much of it, it is every bit as nauseous, for skunk musk is not really bad when sufficiently diluted. That of the weasel, however, is vile beyond description no matter how faint the whiff. It is not unlike acety-

lene gas, gingered up with essence of onions, and every succeeding scent which gains one's nostrils for hours after serves unpleasantly to recall it.

REYNARD AS A FISHERMAN

A NGLING is not generally regarded as coming within the scope of Reynard's many gifts, and I suppose few followers of hounds would be ready to admit that the red fox ever ascends to the gentle art. What may be totally unknown to the foxes of Leicestershire or the New Forest, however, can conceivably be common practice among the long-limbed foxes of the Scottish ranges, for animals of all kinds quickly adapt themselves to the conditions of their environment, learning to profit by the circumstances of their particular locality. I fear this is a point of which nature observers are very apt to lose sight, for we are all too likely to try to map out the life histories of our wild birds and beasts on uniform lines, allowing little latitude for the peculiarities of individual home range or for individual temperament. Particularly is this so as regards those characteristics which are destructive to man's interests. There

are animal criminals just as there are human criminals, and because one wretched individual of the fox, otter, or badger tribe is discovered in the act of committing a new crime, we are prone to conclude that the whole of the species as a usual thing readily descends to the same level. This, as a matter of fact, is exceedingly unjust, as peculiar circumstance or a peculiarity of individual temperament may lead a wild animal to depart entirely from the usual customs of its tribe.

The following observations with regard to the fox may, therefore, be purely local, or a further example of individual acquirement, but that the taking of fish does on occasions come within the range of Reynard's everyday tricks the writer has reason to believe.

The salmon, ascending a certain fall in the Galloway Highlands are apt, if they fail in their leap, to drop back upon a shelf where the water is not more than two or three inches deep. The fall is very likely to stun the fish, whereupon, lying belly upwards, it drifts to the water's edge, and can easily be taken out by a patient watcher.

A shepherd in the locality told me that he obtains many salmon at this point during the season, "but," he added, "the dern foxes get more than I do!"

This roused my interest, and the man subsequently informed me that when the salmon are running most freely the foxes watch the fall every night, and that regularly he saw the signs of their success. The man was a very dependable nature observer, and seemed surprised that I should express any shadow of doubt regarding the fishing habit in foxes. Subsequently, however, I proved his story for myself.

Foxes are, of course, fond of following water on their nightly forays, as nocturnal birds are most likely to be found there, and from the taking of stunned fish it is but a short step to angling in the true sense: i.e., the rushing of salmon as they ascend the rapids. I have myself in British Columbia thrown a salmon on to the bank as it mounted a shallow, and a fox would have no difficulty whatever in securing a fish at such times. It is quite reasonable to suppose, moreover, that a fox would very readily try to do so if he knew what salmon were—in fact a hungry fox will rush anything moving that he can catch and hold. I have, at night time, heard a salmon ascending the riffles, and watched it mount towards me for a considerable distance, so that, all things considered, it might reasonably be thought rather strange if our mountain foxes, subjected to seasons of food scarcity as they are,

have never learnt to profit by the abundance of the waterways.

To illustrate how readily animals learn the possibilities of new hunting grounds, I may quote the following. Through the village in which I lived before the war, there ran a small stream in which thousands of trout spawned annually. Normally the stream contained only fingerlings, but immediately the trout began to run, the village cats took to frequenting its banks in considerable numbers. Many a poaching feline took up its abode along the banks of the stream and lived there for so long as the river trout remained, though at other seasons a cat was seldom seen along the water.

One more incident as regards Reynard as an angler. In some of our Highland lochs a fair number of salmon are killed by the otters, the otter taking only one bite from the back of the salmon's head and leaving the carcass to drift ashore. When duck shooting I have more than once picked up freshly killed salmon, and the shepherds obtained many fish in this way. I have, when skirting these lochs, repeatedly noticed the tracks of mountain foxes along the water's edge, following the curve of every bay and headland. If it were not that the fox were hunting for flotsam of

some kind he would surely have kept to cover and conducted his movements with some respect for wind direction, so that it is not wild speculation to suggest that stranded salmon were the main object of Reynard's quest. It is, of course, known that when salmon disease is rife and thousands of fish lie dead and dying in the slack water, foxes come down from the hills in packs to feed upon them.

ISOLATED SQUIRRELS

THE squirrel is essentially a creature of the sheltered and fertile valleys, and though not gregarious, it is certainly among the most sociable of our wild creatures. For instance, I have known two squirrel families, living in small coppices about 200 yards apart, regularly to meet on perfectly friendly terms and with apparently no other view than that of enjoying each others' society. As a rule one family lived in one wood and the other family in the other, but sometimes both families were to be seen together in one wood or the other, often all in one tree. Their manner of coming and going was interesting, for, as every student of the wild squirrel has observed, this animal dreads an overland journey with no trees near, just as does a water rat dread a trek out of range of its beloved element; and a squirrel will never make a journey across the open if any sort of interconnecting shelter is available. If he can run

along the top of a fence or along a hedge bottom he is more or less satisfied, and the two families above referred to used to visit each other's woods by running along the top of an interconnecting wall, though this meant a journey almost twice as long as was necessary overland. Another partly tame squirrel, on wishing to pass from the house to the stables, used always to do so by bounding along three sides of the enclosing wall—more than three times as far as the direct route across the yard!

Before leaving the question of the sociability of the squirrel, my remarks may be taken as misleading unless some comments be made on the subject of individual home range. Outside the mating season the extent of any animal's individual range is normally governed by one factor and one factor only—the abundance or otherwise of food. The Canada porcupine is a slow mover because its food is everywhere. It will climb into a tree and never descend for several weeks, until, indeed, the tree is entirely stripped of its leaves; and the probability is that outside the mating season an individual squirrel would be perfectly content to spend the whole of its time in one tree sufficiently fruitful to supply its needs. I have known a pair of squirrels to spend the summer and autumn in three or four beeches bordering a stream, and other observations

I have made go to show that this creature is satisfied with an extremely small home range, and may live and die within fifty yards of some favourite spot.

Now as regards this individual range the squirrel is certainly not sociable. It objects very strongly to the intrusion of one of its own kind, and will at once chase any trespasser away, even though the latter be harmlessly besporting itself on the leaf-mould below. But, so far as I can make out, no squirrel regards more than three or four trees—or possibly only one—as its own individual property. This small area is sacred to its possession, and thirty yards away the range of another squirrel, just as zealously guarded, may begin. The trees between these two ranges, however, are treated as common property, and while each individual beast observes the other's reserves—or if not is vociferously reminded to do so—they meet in the trees between on a level footing, and may, in fact, meet there for social intercourse, i.e., the enjoyment of each other's company.

All this being so, the squirrel may safely be regarded as of highly sociable, if not gregarious, habits. It certainly is not gregarious, for though two families may temporarily unite, drawn together probably by some common attraction, each

family has its own range, and nothing resembling a gathering of the clans, except in cases of common distress, such as forest fire, when the population is hurled forcibly together, has ever been heard of.

Having regard for these facts, the existence of entirely isolated squirrels is interesting and surprising. Recently I have come across several squirrels living their lives far remote from their kind, which would very easily be accounted for but that the home of many such solitary individuals has no connection in the way of timber with forests which might be regarded as suited to the squirrel's requirements. One such case of absolute isolation consisted of a whole squirrel clan, consisting probably of a dozen members, which I found living in a small circular forest in the very heart of the moors in Selkirk N.B. To the north, west, and south of their abode the mountains were entirely untimbered for a distance of from ten to twelve miles. The burn which flowed through the wood ran east, and for the greater part of ten miles its banks were entirely untimbered, occasional alder and fringes of pines being the exception. Generally speaking, then, there was no recognised squirrel habitat within a distance of eight or nine miles, while the little coppice, isolated in the heart of the hills, stood at an altitude of close upon 2,000

feet above sea level, and was, perhaps, three acres in extent.

In view of the squirrel's stay at home habits and its strong objection to overland journeys, it would be interesting to know how this little party of pioneers—if such they were—came to possess their Robinson Crusoe Island.

In all probability they are not pioneers, but the survivors of a very ancient stock, for the roots and logs in the peat hags bear evidence to the fact that at one time the entire glen in which they dwell was thickly wooded. It is likely, then, that with the shrinking of their home forests the little clan referred to has been stranded high and dry on the sole remaining patch, and what they will do if some day the foresters pay their home a visit one can only conjecture. They will be faced with a tremendous overland journey, which will probably proceed from tree to tree following the course of the burn, but hard and unhappy times will befall them if the trek occurs in late autumn or winter.

Again, I found in the Galloway Highlands a solitary squirrel spending his days in bachelor splendour in a tiny patch of forest, not more than half an acre in extent, slick on a mountain top well over 1,000 feet up. He could, from his home, look down upon the fertile valley, brimming with

oak and hazel, and the nearest connecting link of forest was perhaps three thousand yards away. There was no water in the patch of timber, and probably none was needed, as for nine months in the year it was cloud-wreathed and dripping, yet to my knowledge the squirrel was there, quite alone so far as I could ascertain, at least so long as I was in the locality—January till September. How he got there and why he chose to remain were facts beyond my understanding.

Another solitary squirrel I knew spent the whole of one winter in a fringe of pines which sheltered a mountain shealing in the midst of a wind-swept glen far away from any other standing timber. The burn, however, was sparingly timbered with hawthorns and whins, by following which from the far-off valley during the berry harvest this squirrel might have arrived at its present abode. The pine fringe was so wind-swept and desolate that I often wondered how the little creature managed to survive the cold. It had food in plenty, stealing a good deal from the chickens, and probably this was the real inducement. I have, while motoring, observed other isolated squirrels living as this one lived in the steading by a moorland shepherd's home, and can only conclude that they are the victims of circumstance rather than solitary by

choice. It is strange, however, that these sociable little animals, which so dread anything in the way of an overland journey, should be found at times so unaccountably stranded in the midst of treeless country.

THE MERLIN HUNTING

THE most marvellous exhibition of stunt flying I ever witnessed took place between two merlins and two snipe,* and recently I had the good fortune again to watch two of these little falcons in pursuit of their prey. The first flight took place in mid-air above a Yorkshire moor, the merlins adopting peregrine tactics quite different from their usual methods of attack, but the second flight was witnessed in the wilds of Blair Atholl, and was certainly more typical of the merlin's mode of procedure.

In the centre of the tablelands where the episode was witnessed are two small lochs, a mile or so apart, and both of them abounding in bird life. They are favourite breeding haunts of great numbers of sandpipers and redshanks, and regularly these birds are to be seen flying low from one loch to the other.

* Described by the author in "Inland Birds."

A swish of wings attracted my notice, and looking up I saw a merlin in hot pursuit of a sandpiper. There was a stiff wind, and having regard for the powers of flight of the fugitive, one can imagine the speed at which they were travelling. Almost at the same instant I saw a second merlin dart in at right angles, to intercept a second sandpiper flying in company with the first, though perhaps thirty yards from it, and thereupon things happened so swiftly that it was difficult to keep count of them, and more difficult still to render an accurate description.

So far as I could make out the first sandpiper dived headlong into the heather, whereupon its pursuer uttered an angry scream, and proceeded to "tread water," beating the heather with its wings. Meantime the second sandpiper, finding its retreat cut off by the hawk flying across wind, seemed to stand still in mid-air, then rose vertically, and came banking over the spot where the tercel was beating the heather. The tercel then shot straight up in a most astounding manner, and it seemed that his quarry had no chance at all. Apparently the tercel struck him from below, but it was over so quickly and the air was so full of feathers, that it was difficult to judge just what did happen. At all events the merlin returned to earth in possession



A RED SQUIRREL FEEDING.



SANDPIPERS.

of his prize, and almost as I heard the thud of the impact I saw the little murderer alight on the naked peat, where he proceeded to deal blow after blow upon the head of his hapless victim.

Not satisfied with this, he left his prey immediately, and along with his mate proceeded to beat up the heather for the bird which had dived, and so viciously intent were they that they paid no heed to me, though I approached to within a few yards. They were more like little hornets than the beautiful feathered things they are, and never before did I behold such dazzling swiftness and intentness of purpose as they presented, as they flashed from point to point. If one sees a weasel working a rabbit-infested burrow, one obtains a convincing illustration as to why it is that animals so much fleeter than the weasel cannot escape it, and so now, though I cannot imagine any bird fleeter than those merlins, I obtained convincing evidence that nothing of their size, be it on wings or legs, would stand much chance of escaping them.

Thus, by sheer energy, they forced the luckless sandpiper to leave its retreat. It darted perhaps thirty yards, then pitched again, and again both hawks hurled themselves at the heather. I could see that their poor fugitive was almost paralysed with terror, and since I have a strangely soft place

for the sandpiper, which brings the springtime to our waterways, I stepped in as spoilsport.

To the merlins it meant but a meal, and they already had one in that little heap of crumpled feathers lying, wind-beruffled, on the bare peat, but to the sandpiper it meant *everything*. The hawks clearly resented my interference, for they flew off with chattering cries which bore a note of menace, and I wondered whether they would come back for the dead thing that they left. Possibly not, since for them killing must have been an easy matter between those two lochs with their vast bird life inhabitation, and if I were a sandpiper or a redshank, I would try to make up my mind to cling to one or the other. For the belt between must have been a no-man's-land so far as a safe passage was concerned.

Little hornets—the rattlesnakes of the lower air, as such they appeared on that occasion, yet the merlin is among the most perfect and beautifully proportioned of our wild birds, and within my own comparatively brief memory his numbers have shrunk so that I fear his extermination is not far distant. Vast areas, over which the merlin was abundant in my boyhood, now know no longer the presence of the little blue hunter, and as hawks go, he is not a vicious hawk. Unlike the peregrine, he

does not kill for the glory of exercising his own supreme powers. He kills only what he needs, and he plays the game. I knew a meadow pipit to rear her brood in the heather at the foot of the cairn of stones on which a merlin sat each day, his look-out tower. The little lark would fly back and forth under his very eyes, quite fearless of him, for when he wanted food he would speed down the mountain face to hunt the loch edges. And his prey, for the most part, was the fleetest of the fleet.

NIGHT FEEDERS

THE manner in which certain birds are diurnal or nocturnal at will, decided by the immediate conditions, has always occurred to me as a point of some interest, for at first glance it would appear very strikingly to illustrate the adaptability of wild nature. The birds of our lochs and rivers are particularly noteworthy in this respect, and when the majority of them sleep, especially during the spring of the year, no man can say.

Take, for example, the large flocks of gulls that inhabit my own valley. During the major portion of the year these birds live much in the same manner as the rooks, following the ploughman and "living on the land" in the true sense of the phrase. At dusk they return in straggling flocks to roost on the mud flats of a neighbouring loch, passing certain landmarks almost to the minute in their coming and going day after day. Should there be any

change in the tide of fortune, however, they immediately revise their habits.

During a few days in the spring of the year the salmon parr drift seawards in countless thousands, keeping to the shallow water at the loch edge. At no other time of the year are the parr observed in the loch, but during these few brief days of their passing one has merely to cast a fly and a parr will be hooked every cast—sometimes two or three at a cast, according to the number of flies used. The most common gull with us is the black-headed species, which I have always regarded purely as a scavenger, rather than a killer of fish—excepting, of course, crayfish. I have noticed during two successive seasons, however, that while the migration of the parr lasts, the gulls are busy all night, flying up and down the loch margin in ceaseless activity. Normally they are seldom heard after the fall of darkness, but for so long as the young salmon are passing, it is almost impossible for anyone living at the water's edge to sleep for them.

It is probable that all over the country, gulls, like most other water-loving birds, are diurnal or nocturnal as the conditions dictate, sleeping between feeding hours, just as do the wild duck, and whether it be day or night. It is curious that this state of affairs does not prevail among "tree

birds," all of which are either strictly diurnal or strictly nocturnal. The heron, the coot and moorhen, the divers, the gulls, the ducks, the plovers, and the majority of the waders are as much nocturnal as they are diurnal—at any rate during the spring of the year. At this season the common sandpipers are among the most restless of all living things. All day they are to be seen speeding from one favourite rock to the next on hooped and trembling wings, each pair having its own individual beat, on which it much resents the intrusion of others. Then, when night falls, they are still to be heard, flying endlessly back and forth, calling, calling, till their soft, plaintive notes so haunt the mind that on waking one still recalls having heard them the night through. The snipe is another nocturnal bird, and crossing the moors I have heard them wheeling and drumming in the heavens at all hours of the night.

It is noticeable that still, thundery nights seem to have a special effect on birds of the snipe and plover family, for on such nights the whole hillside community seems to go totally mad, till the air literally throbs with the piping of sandpipers, the drumming of snipe, the whistling of golden plovers and dotterel, the "kee-witt" of lapwings, and the sad, persistent call of redshanks. Probably quite

the majority of these birds are astir at night time the season through, though only during the nesting season do they make so much noise about it.

But how is it that only the birds of the waterways are so peculiar in this respect ?—for if it be argued that at certain seasons their food is more plentiful by night than by day, then certainly the same applies as regards most song birds. Rich indeed would be the store of worms awaiting the mavis sufficiently progressive to sally forth on a rainy July night, and similarly summer nights would afford more food for the fly-eating birds than summer days, yet all, save the nightjar, are strictly diurnal.

Probably the correct explanation is that the birds that are both nocturnal and diurnal are chiefly birds of the sea shore or the maritime swamps, whose movements normally are governed by the tide. Low tide is their feeding time, and whether it fall by day or night they are astir. This theory is supported by the fact that the truly inland aquatic birds, such as the dippers, which have just as much excuse for being nocturnal as the rest, are, like the song birds, entirely diurnal. The shore birds and gulls carry their disregard for conventional hours inland to their nesting haunts,

and it would be interesting to know whether their feeding hours inland coincide with the movements of the tide some scores of miles away !

FRIENDSHIP AMONG ANIMALS

WHILE friendship is one of the choicest blessings of mankind, it is commonly regarded as a gift peculiar to our own supreme intellects, a power undividedly our own, among all earthborn things. Just where to draw the line between Friendship and Love it is difficult to decide. Man loves woman, parents love their children, children love their parents and each other.

But men too have loved each other. Surely we can recall friends of our schooldays, boys of our own age, whom we loved very dearly, and parting with whom, if such a thing had to be, brought a very real sorrow into our lives? If not some element was missing which goes to the making of manhood. So friendship, true friendship, is a condition which cannot exist without love. Acquaintanceship is as far removed as the stars. We do not love all our acquaintances. The loss of one

or another might cause sincere regret, which again is as far from sorrow as acquaintanceship is from love, and the man who professes to love all his fellow creatures, is striving to deceive himself within a sacred sphere. There was only one Man to Whom that power belonged.

Therefore we need not strive to draw a line between love and friendship. What is the love of a man for a woman other than the sincerest and truest friendship backed by nature's bonds? Those bonds may perish in time, but the love remains. There may be other kinds of so called love between man and woman, but such emotions are apt to prove transient as the seasons, because they lack that of which David sang. So, would any wife on earth have the man she loves say more than, "My wife is my friend."?

There was once a great writer who badly confused love and passion, and he set the world a miserably sordid standard when he wrote that love ceases when nature's desires are achieved. A great writer he may have been, but he was not a great man. Rather a fanatic whose outlook was cold and whose soul was wretchedly poverty-stricken. Surely the love of a boy for his friend, of a man for his brother, is a higher and a better thing than the so called love of which this writer spoke?

Though no one would question that the fox of the forest loves her cubs or that the deer of the hill loves her fawn, many would ridicule the idea that friendship, as distinct from sexual interest, plays a part in the lives of wild animals. In the following, therefore, I propose to put forward some examples of animal friendships, which have no bearing whatever upon mating instincts.

In the first place it is a curious fact that among sheep and deer, which do not mate in the true sense—that is, the males and the females live apart except during one brief season of the year—the sense of platonic friendship is very highly developed, albeit they know no fidelity as concerns their marriage bonds. For example, two stags will live together and in solitude for eleven months of the year. For one month each goes his own way, and if they meet at that time it is as deadly foes, ready to fight to a finish. Yet, during the remainder of their lives, they are inseparable comrades. One watches while the other rests, and should danger threaten, the first act of the one that is watching is to warn his chum. So we have an example of sexual fidelity being non-existent, while the power of “friendship” is very strongly developed.

Some years ago, when deer stalking in Scotland,

I shot and killed what we thought was a young stag in the country west of Glen Garry. His head was not worth while, but we were not hunting heads. We were hunting venison. Going up to him we found the animal to be old and long since past his prime. His antlers had deteriorated, he was almost toothless. We left him where he lay while we went down for the pony, and on our return we found another stag, apparently in the prime of his life, sniffing at the poor dead beast in the heather, and running round him in an agitated manner. The stalker then explained that he had seen these two animals together all summer, and that the dead stag had served, as it were, as fag to the finer beast. The very obvious distress of the latter at the fate of his old comrade was one of the most touching things I ever saw in Nature.

Another very similar incident occurred more recently. It was late in the season, and we were out after hinds. At length we found a very large herd in a sheltered corrie, and one of the stalkers killed what he considered was the best yeld hind in the bunch.

For some reason the other deer did not take alarm, and seeing their comrade fall they crowded round her, sniffing her and tapping her with their forehoofs, as a fawn taps his mother to bid her rise.

Even on our approach they were reluctant to leave their comrade, but at length they all ran off save one, who haunted the vicinity heedless of peril till we were quite close. That one was, of course, the particular friend of the fallen hind, and it is by such incidents that one comes to abandon the rifle for the camera.

In the days when the red man ruled the prairies, there was a certain kind of buffalo robe which was considered priceless, and which served as the regal apparel of the greatest chiefs. The hair of this particular robe was soft and silken, and covered all over with smooth, glossy curls. This was not the coat of a great and noble monster of the wild herds, but of some great grandmother of the clans, whose ways so endeared her to her children that one or another was for ever licking and caressing her—hence the silken and curly properties of her coat.

In the field adjoining my house, two old Scottish rams, big of horn and black of face, have lived for several months past. That they were the best of friends no one could doubt. Never were they more than twenty feet apart, and when the sun was hot and the flies troublesome, they would stand side by side for hours on end, each with his head resting on the other's back.

One day one of them injured a foreleg, and consequently was removed to the home steading for treatment, and while he was away, the conduct of the one left behind was really depressing to behold. Here and there he searched, running across the field at any sign of movement on the other side which might mean the return of his chum, and rarely forgetting his loneliness sufficiently to settle down and feed. At the end of a few days he had perceptibly lost bulk. Several ewes were turned into the field in the interval, but he would not go near them. This proved that it was not merely company he wanted—it was his own special chum, and when finally that chum was returned, they ran bleating to meet each other, sniffed each other's noses to make sure all was well, then quietly settled down once more to their uneventful lives.

The fields are full of such friendships among domestic animals. Every flock of sheep, every herd of cattle, consists of so many friendly couples, which always graze within a few yards of each other. Yet how many people realise this when they see a flock of sheep or a herd of cattle? How many would credit that day after day those "stupid creatures," which from our viewpoint, seem to be incapable of any emotion other than the

satisfying of their own desires, may be seen day after day more or less in the same order so far as their grouping is concerned—that is, the friends together! Yet ask any shepherd or any herdsman and he will tell you this is so. If necessity demands taking one animal from the rest and removing it to some other place, the farmer will when possible take its particular friend with it to keep it company. This is not only because he is a sympathetic man, but because the driving of that animal would be a difficult matter if its friend were left behind. It would repeatedly strive to turn back, whereas the two in company will take the new road more or less contentedly and in a spirit of exploration.

The friendship of animals with one another is really less strange than their friendship with man, but the dog who serves and loves his master, probably has another doggy friend, to whom he is equally devoted, but in quite a different way. Dogs have been known to voice their sorrow when their master was taken from them, and to mourn the loss for many days, but I have never heard of a dog showing signs of grief because it had lost a comrade of its own kind.* Indeed one of the marvellous things concerning our canine friends is that

* Later: A reader writes me that he has known an Airedale terrier to fall sick through mourning the loss of his companion, a fox-terrier.—H.M.B.

their love of human beings is a thing aloof from their ordinary lives, an acquired passion, which has no counterpart in the ordinary course of nature. The outcome of countless years of education, it is difficult to obtain its parallel in the case of an animal sprung directly from the wild. I have known many wild animals. Some never responded in the least to kindness and care. Taken as tiny creatures, they were perhaps quite amenable when young, but as they grew older their attitude towards mankind became more and more one of savage distrust, till eventually they became unapproachable. A vixen at present in my keeping belongs to this category. Badgers, otters, martens and one or two others learn to love the caress of human hands and to look for dainties from human fingers, but I am doubtful whether they ever acquire any real sense of affection. Yet I know for a fact that two old dog badgers will live *en garcon* for years, sharing the same den, and sticking together with brotherly fidelity.

Stranger still are the friendships which often exist between two animals of entirely different kinds. In my boyhood we had a pony which shared the paddock with an old Alderney cow. Regularly they were to be seen caressing each other, and if one were removed the other would stroll about



A CURIOUS FRIENDSHIP.

A Goldfinch and a Bullfinch daily visited the bird-table together.

dejectedly, searching and calling for its chum. Similarly for many months last winter and far into the spring a male goldfinch and a male bullfinch came daily to my bird table. Always they came together, fed side by side, and flew away together, so we were justified in concluding that the two brightly coloured little visitors were comrades for life.

A little boy who was lost in the prairies crept into a badger burrow for shelter from the weather, and there he lived for many days, fed by the wild tenant of the burrow and drinking at the stream. His story when he was found was somewhat disconnected, but he stated that the badger had brought food for him, which was borne out by the signs, and by the child's condition.

Many curious records exist concerning friendships between animals of entirely different kinds. For instance, a badger and a jackal have been known to hunt together as inseparable partners, seen day after day at different places in each other's company, and similarly tiger and jackal may become inseparable chums. In the latter case the jackal serves as the tiger's table maid, clearing up after him, and in return for his board he assists the tiger in hunting. Very often it proves to be a very old tiger, which would fare badly but for its astute

companion, and in one instance the tiger proved to be entirely blind, so that its own sense of smell and the guidance of its companion were the only factors whereby it circumvented its prey. A jackal which attaches itself thus to a tiger is called a "choil," after the cry it utters to guide the tiger, and it is generally a mangy outsider of its tribe.

These, however, are very doubtful instances of friendship, for the jackal is naturally of a parasitic disposition, and he becomes a hanger-on for his own benefit, rather than in any spirit of affection. Reverting to the jackal and badger companionship, the jackal doubtless first comes as a follower. The badger is short-sighted and slow-witted, and when he digs out a marmot family several are bound to bolt from the burrow, and would escape but for the waiting jackal. So in due course they both learn to profit by the other's help, and true partnership follows. It is, however, said that when a tiger which has hunted with a jackal is killed, the smaller animal is sure to return, and in its anxious search falls an easy prey to the huntsman.

Thus it would be hard indeed to point to anything in the world of men and women which has no counterpart in the Wild. Friendship, love, business partnership, love of country, all are there, and

the more we learn of the wild beasts, the closer do they draw to our own levels of living and reasoning. So far as the power of love goes, much is hidden by the kindly shadows we cannot penetrate, but we are no longer justified in attributing their motives and achievements to blind instinct. A creature reared in captivity will rarely prosper if given its liberty, because it lacks parental teaching and example. Of course there are exceptions —hares, which obtain no single lesson from their mother to help them in after life—but ninety per cent of our beasts which live and die are dependent upon their home teaching just as are our own little people.

Only by reason of two great powers does man stand aloft and aloof above all earth-born things —ambition, and the power of application. By reason of these two the gulf between the lowest grades of humanity and the highest of wild beasts is inconceivably vast. The wild beast may possess wonderful reasoning power and knowledge, but it cannot apply that knowledge. Few beasts have advanced even so far as the beaver in the science of application, for the beavers have learnt that whereas one alone may be unable to roll a log, two pushing together may attain that end—provided they push in the same direction. And if not two, then three or possibly four. This is a great step in

the sphere of application, and it is just about as far as any wild beasts have got.

As for ambition—eliminate its existence from the world of men and women, and where would we be to-day? Exactly where we were a hundred thousand years ago, or possibly non-existent. In the grey dawns of life man learnt to reason, and with his increasing power he forced his deadliest rivals, those next in intelligence to him, into the wild places, where advancement for them was impossible, and where their final extermination was only a matter of time. Ambition, the desire to improve, to gain power, was at the root of all this, so had not man after our own making come to rule the earth, some other form of life would have improved, obtained ambition, and inevitably taken his place.

COMPARISONS OF BIRD AND ANIMAL SPEEDS

IN spite of cinematography and our own mastery of speed by land and air, the relative speeds of animals and birds are still to a large extent a matter of conjecture. Motorists possess unique opportunities of drawing comparisons during the ordinary course of country travel, and have never missed an opportunity of observing by speedometer reading the abilities of those creatures which have been so obliging as to make comparison possible.

My notes giving such records as have been obtained may be of interest, but I realise that they are far from being complete, and it should be understood that they are not given as conclusive.

For various reasons it is very difficult to arrive at the maximum speeds of which creatures are capable. How are we to know in the first place that the bird or animal is "all out"? It may,

like certain racehorses I have known, have decided that particular day that speed is not its special gift. It may have been run hard prior to the chase, so that it is not at its best, or it may set up an irregular course long before its maximum speed is attained.

Let us take the most common example—the hare. Most motorists have chased hares over varying distances, and I personally have chased many ; I have never, however, been able to induce a hare to exceed 28 m.p.h. At about this speed the animal begins to dodge, which would seem to indicate that its limit is reached. A hare will run straight when pursued by dogs till it learns that its pursuers are faster than it is, whereupon it at once settles down to dodging. This quickly wears down its pursuers, and when next the hare runs straight it will be seen that the dogs are no longer the faster. Of all beasts the hare is a past master in the art of being chased, and if we could arrive at its maximum speed, we should at any rate have a basis on which to work out the speeds of others.

From my own observations I would say that the best speed of the best hare does not exceed 30 m.p.h. for 200 yards or so, and beyond that distance the peak falls away very rapidly. I take it

that the maximum speed is reached when dodging begins.

A correspondent, however, informs me that while driving a Vauxhall car, he reached 41 m.p.h. before outspeeding a hare ahead, and that it was actually leaving the car at a speedometer reading of 39 m.p.h. Since I have not much faith in the average speedometer, I prefer to take my own figures as more likely to afford an accurate basis on which to work.

The hare is among our record sprinters, but he is by no means the fastest. I have seen red deer almost trample down mountain hares which were running with them from a common foe, so rapidly did the deer gain, but of course the heather and the uneven ground was more of a handicap to the hare than to the deer. What is more to the point—a friend of mine possessed an Alsatian Wolfhound, which in looks and ways was more wolf than hound, and it could usually catch a hare, flushed close, within the first fifty yards—during the first dash indeed. But he was left behind when one day an old hind rose from the bracken almost alongside him. This, then, would seem to prove conclusively that the deer is faster than the hare.

In the vicinity of Black Mount a stag one day ran parallel with my own car for about 200 yards.

I could not accelerate over 30 m.p.h. on the upgrade, but he seemed to be holding us easily. Certainly I have seen a slightly wounded stag come down the mountain face very much faster, and this is about all the evidence I have to work on.

I would imagine that the little roe-deer is as swift as the best stag, for he is not hindered by a heavy head of antlers. Not long ago I got within forty yards of a herd of red deer in the hope of photographing them, and at that range they suddenly saw and winded me, and made off in tremendous bounds. After they had risen, two roe-deer, hitherto unseen, got up at about the same place and headed for the same gap in the crags. The roe started about ten yards behind the red, but they made that up and gained another ten yards ere both roe and red disappeared among the crags 200 yards away. From this we are left to conclude that the roe is 10% faster than the red deer.

So we are fairly safe in putting down the roe-deer as our record sprinter with something between 36 and 40 m.p.h. to his credit. The red deer is second at 33-37 m.p.h. The fallow deer probably cannot exceed 33 m.p.h., and the hare about 30. If my speeds for the hare are wrong, we are all at sea, but I do not think they are.

, Brer Rabbit is by no means to be scoffed at, and



DEER HESITATING SUSPICIOUSLY ON THE SKY-LINE.

I am not certain but that the absolute maximum of a good rabbit on good ground he knows is not as high as that of the hare. In reality, however, he has no look in, as in 100 yards or over the hare would undoubtedly prove the faster.

The fox, for all the excellent sport he affords, is a long way down the scale. He is a cross country runner rather than a sprinter, and his great gift lies in keeping up a creditable average over a long distance. He is certainly 5 m.p.h. slower than the hare, or hares would be less plentiful than they are. True that foxes often kill hares, but this proves nothing. They do so by strategy, just as the world's record sprinter might find himself sandbagged by any burly ruffian. The fox cannot catch the hare once the latter is moving, and both of them know it. I once saw a fox working slowly down a corrie in Perthshire, looking for game, and a hare started up almost under his paws. The fox merely raised his head and looked at it, as though he would say : " What a pity ! There's a good hare gone ! " He had more sense than to tire himself in giving chase, because he knew from previous experience that it would be useless ; and fifty yards further on the hare sat up and looked back at him invitingly.

Among our remaining wild beasts—we have not

many—there are few which could outrun a good human athlete.

During recent years a good deal has been done in the way of chasing wild animals on veldt and prairie for the purpose of obtaining cinema pictures of them, but this is a useless business so far as it concerns our general knowledge of natural history. No animal on earth could hope to escape even a moderately slow motor vehicle in open country, and it is on the length of the chase that the cinema artist depends. There is no need to emphasise the unsportingness of such methods—that is, of introducing machinery to wear down bone and muscle. For ages past these creatures have held their own by their wonderful running powers, and it is an abuse of our own genius to eclipse them by such methods.

From my own experience of bush travel it is generally impossible to exceed an average of 20 m.p.h. over the most favourable going, and a few minutes at this speed finds even the antelope run to a standstill, leaving us with no knowledge as to its wonderful powers. What it does leave us is an exhausted animal with internal injuries, which, robbed of its only means of defence—and that the most sporting means in the world—will probably fall victim to its natural foes during the succeeding

twenty-four hours. The hunting of harmful vermin, such as wolves and coyotes, by motor-car is a different matter, but home motorists will contemplate with regret that the motor vehicle, unscrupulously used, is making sad inroads into the world's finest game fields, and that, unless adequate steps are taken to prevent the use of motor-cars for chasing wild animals, there will be precious little big game left two decades hence.

To this I may add that there is very little danger of injuring a hare by over-exhaustion by chasing it on an open road. The practice may be unwise under certain circumstances, but a hare can run for miles and he will double off the road long before he injures himself.

Mr. Ernest Thompson Seton, one of the best known zoologists of the day, sets down the speeds of various animals as follows : race-horse—maximum speed for one mile—34 m.p.h., antelope 32 m.p.h., greyhound 30 m.p.h., hare 28 m.p.h., fox 26 m.p.h., jackal 24 m.p.h., foxhound 22 m.p.h., timber wolf 20 m.p.h. Mention might, however, be made of the cheetah so much used for coursing fleet game in India. Over a distance of 100 yards the cheetah is supposed to be the swiftest thing on legs, and is said to be able to attain 60 m.p.h. In coursing it usually overtakes its quarry immediately, or failing in this

it abandons the hunt—rather a strong recommendation in a coursing animal.

It will perhaps be observed that all the estimates here given are below those usually served up to fire the imagination of the reader. In the past it has been customary habitually to over-estimate the speed of animals, but little by little the speedometer is shedding light upon the subject.

Our fast flying birds still provide an open field for exploration. For years the swallow was regarded rather in the light of an emblem of speed, but he is by no means among the true movers, and almost any good motor-car can leave him. The maximum speed of the swift, however, is considered to be over 120 m.p.h., and he again is not the swiftest.

Motor-cars are still insufficiently rapid to shed much light on the flight of the more rapid birds. Not long ago a sparrow hawk rose from the ditch alongside my car on a good straight road, and for some reason persisted in holding the centre of the road just in front of and about level with the top of the radiator. He seemed to be flying quite easily, glancing back at us at intervals, while our speed crept up and up. One curious feature of this chase was that as our speed increased the hawk did not seem to increase his efforts, yet he remained just

the same distance ahead. So we attained a speedometer reading of 58 m.p.h. before a corner in the distance demanded slackening off, and seeing that we had given it up, the hawk turned at right angles and corkscrewed with the most remarkable acceleration down the hill face. This is merely given as an interesting incident, and not to illustrate the speed of the bird.

Before the war I drove a Sports Bugatti, and on one occasion on a West Riding moorland road I observed a snipe circling round the car while we accelerated from 40 m.p.h. to just over 60 m.p.h. This statement has been frankly discredited, but I would have no object in quoting it unless it were true. I know what 60 m.p.h. is—or rather was in pre-war days—and that snipe must have been travelling at an almost incredible speed to perform the circles. But here again we are apt to be misled, as there is no way of estimating to what extent the corkscrew course the bird was taking was drawn out. At the time we estimated the speed of the snipe as in excess of 120 m.p.h.

As already stated the most marvellous piece of flying I ever saw was between two merlins and two snipe. The latter were flying for their lives, and if the snipe above quoted was doing 120 m.p.h., he was scarcely moving compared with the latter two.

The burr and rattle of wings would have been audible quite a mile distant, and repeatedly I saw the hawks completely loop the loop without checking speed.

Unfortunately the sport of falconry rarely yields such exhibitions of stunt flying, as a hawk reared in captivity is never equal to a really wild one.

The merlins in this case were swifter than the snipe, though the latter repeatedly dodged them, yet in the days of falconry the merlin was not considered a swift hawk compared with his big cousins, the peregrine and the gyr.

When I was living on the shores of Loch Ken a peregrine used occasionally to come hurtling down the face of the Bennan for a matter of a thousand feet or so, in order to put the breeze up the wild fowl feeding on the loch. I never saw him strike at them, but as his headlong descent down the mountain terminated, he would cork-screw clean across the loch by sheer inertia, literally revolving at giddy speed for the space of over a mile. It was, of course, difficult to judge, but it certainly seemed that he covered that mile over the water in the space of about ten seconds ! *

I have seen golden plovers, flying downwind,

* From later observations, I conclude that the peregrine is swifter than the swift, and far and away the fastest flying bird up to its size.—H.M.B.

overhaul the express train in which I was travelling at close upon 60 m.p.h. with consummate ease, and disappear over the comparatively level dunes in very few seconds, albeit their course was not parallel with the train. They were, therefore, travelling at well over 100 m.p.h., and curlews, when in the mood, come downwind faster than golden plovers, and the snipe is faster than either of them. Yet the merlin is faster than the snipe, and the peregrine is almost incredibly faster than the merlin, so that our fastest birds must be capable of the most prodigious speeds, at which one hardly dares to guess.

The aeroplane has taught us that rooks, geese, and the like are slower than we thought, but what it has not taught us is anything bearing on the maximum speeds of our real movers, designed by nature to cover islands and seas and continents in their struggle for existence, or of those who add to that struggle by being ordained to prey upon them.

I append a table of the speeds of birds most commonly seen. This is the result of long observation, assisted by the sports car, the motor-cycle, and Bonniksen speedometer. It is taken that the birds are travelling in a stationary atmosphere.

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<i>Bird.</i>	<i>Usual Speed.</i>	<i>Maximum Speed.</i>
Buzzard (Gliding)	... 60 m.p.h. ...	Unknown.
Partridge and Grouse	... 52 m.p.h. ...	Over 80 m.p.h.
Sandpiper & Kingfisher...	42 m.p.h. ...	Unknown.
Woodcock	... 39 m.p.h. ...	Over 80 m.p.h.
Heron	... 38 m.p.h. ...	Unknown.
Homer Pigeon	... 32 m.p.h. ...	About 75 m.p.h.
Starling	... 30 m.p.h. ...	Unknown.
Cuckoo	... 28 m.p.h. ...	32 m.p.h.
Thrush & Blackbird	... 25 m.p.h. ...	30 m.p.h.
Rook	... 25 to 32 m.p.h.	37 m.p.h.
Swallow	... 18 m.p.h. ...	43 m.p.h.
Sparrows, Finches, etc.	... 18 m.p.h. ...	28 m.p.h.

NATURE'S VOICES OF THE NIGHT

THOSE who know the country's highways and byways by night, or whose homes are situated amidst rural surroundings, must often have wondered at the sounds they have heard, and wished vaguely for the ability to interpret them so far as their wild creators are concerned. It is often a very difficult matter to read rightly Nature's voices of the night, for in the first place the call notes of birds and animals are governed by circumstances. They express themselves according to the mood of the moment, and their vocal powers are far wider in extent than most people think. For example, the cry of a bird or beast uttered in the ecstasy of its courtship may be, probably is, quite different from the sound the same beast utters when in distress, such as when caught in a rabbit trap. By long familiarity one learns to judge the tone of a certain species just as one learns to know the voices of human friends. But this is a long

step in the pathway of nature study. Having attained it, one may be able to recognise at once the cry of any individual species, whether it be a cry of joy or of despair ; but no matter how familiar one may be with Nature's sounds of the night, there are those which it is impossible to identify with any degree of certainty.

Echoes, for example, and atmospheric conditions may warp quite a familiar sound out of recognition, quite apart from the fact that the voices of wild creatures vary, just as do our own intimations, according to passing conversation.

But admitting all this, the night is full of call notes, and other wireless messages by a code which anyone can recognise with certainty, for apart from their ever varying conversational efforts, most birds and animals have recognised call notes belonging to the species, and standardised to the last nut and lubricator. So the rook caws and the donkey brays. We might not recognise the voice of our rook if he fell into the river, nor of our donkey fast in the cucumber frame, but their ordinary notes of interrogation and exclamation we know by heart. Similarly we may come to know the voices of the night beasts.

Among the garrulous creatures of the night the



A LONG-EARED OWL.



BADGERS AFTER GRUBS.

owl comes foremost, our three most plentiful species being the barn or screech owl, the brown or tawny owl, and the long-eared owl. The barn owl, as his other name implies, is the owl which screeches, like the door of the barn in which he lives. By this simple reminder we may remember him. He is the gentleman who sings "kee-witt, kee-witt, kee-woo," and sometimes the last sentence is followed by a painful and dismal hoot. I think he is a bit of a plagiarist. That hoot of his does not strike one as being entirely original. It reminds one of one's early literary efforts. There is something about it which seems to have come from elsewhere, and if there were no brown owls to originate the hoot, I do not believe that the barn owl would hoot. For this note is unquestionably the patent of the brown owl. He is the inventor of it, and the barn owl merely hoots under license.

Of these two birds the barn owl is undoubtedly the better friend of man. He lives almost entirely on small furred animal life, mice, moles, and rats. The brown owl, on the other hand, is if anything a fiercer bird, and I know for a fact that they destroy numbers of the song birds which help to beautify our gardens. The cry of the long-eared owl is rare, but it is clearly an owl cry. It resembles sometimes the mewling of a cat, with a dash of brown owl

thrown in, and a spot of barn owl by way of bitters. In any case the long-eared owl is not so talkative as the other two, and he is a truly rural beastie. He belongs for the most part to the dense larch and fir forests which clothe the hillsides in certain wild areas. His life is a secluded one, and of his ways we know but little. There, amidst the balsam-scented undergrowth, where Brock the recluse lives and where at dawn a lank, lean mountain fox slinks up the riding, the long-eared owl lives by dint of young woodpigeons and the small birds which seek such thickets at close of day.

The Fern owl or Churn owl, or nightjar, otherwise the goat-sucker or night-hawk, the most maligned bird on earth, since it is neither a hawk nor an owl nor a goat-sucker, but merely a glorified night swallow, might well cause the sundown listener to wonder during the brief summer season that it hunts our meadows and woodland pastures. O, thrice beloved and transient spirit of our childhood days! If all our birds were fragrant in my memory as the nighthawk, I would probably be a Wordsworth or a Shelley, or, at any rate, a line writer of the kind paid otherwise than by the line. For the valley of my childhood was alive with night-hawks during the summer months. How they

wheeled and whipped and swerved under the chestnut trees when the latter were in bloom ! How they buzzed and vol-planed over the meadows, where the moon-daisies nodded sentinel in the gloom, and the river sang its world-old melody under the pines ! Since then the nightjar has come and passed, always a stranger like the ship that passes in the night, and all my recollections of this species rise among those ghosts where distance lends its enchantment. The most commonly heard note of the nightjar is the burring, churring call from which it has derived its name of churn owl. This rather resembles the sound of a child's rotary rattle, save that it is softer and the rattle would be called upon to turn over at about 4,000 revolutions per minute for the ratchet arrangement to get in sufficient strokes. The sound is uttered while the bird lies lengthwise of a branch or rock, to which it returns at regular intervals between hawking for insects. Year after year they return to the same perches, and this bird is peculiar in that though it has feet, it has no legs at all, and so it cannot perch as do other birds. There it lies lengthwise of the limb, and so is invisible from below, no matter how keenly one search against the moonlit sky for the strange vocalist. But the nightjar is strange in many respects, a bird of mystery.

Another curious sound made by this creature consists of a sharp tap-tap, similar to that caused by clapping the hands sharply. This the bird does by its wings meeting vertically above its back, and the sound is most common in May and June, when mating interests are at their height. Thus, we cannot doubt that the sound plays some part in the intercommunication of the species, thus affording one of the few examples we have in Wild Nature of communicative sound production caused otherwise than vocally.

Other examples are the drumming of the snipe and the wing noises of the lapwing, and among the animals the stag beating a tree stump or a rotten stake with his antlers as a challenge to other stags. The common woodpigeon can often be heard to beat its wings together in the same way as the night-hawk.

As described elsewhere, many birds are both diurnal and nocturnal, especially those which favour watery surroundings—curlews, wild duck, snipe, and so on.

So the night voices of the moorland from April to August are too numerous for me to attempt to describe here, but among the most mysterious is the previously mentioned drumming of the snipe,

wafting down from the heavens at regular and irregular intervals. This is a humming, vibrating note, which seems to fill the whole air, so that one can judge neither its direction nor its distance. It has been likened to the neighing of a foal, hence the Norwegian "Sky-horse" and Mist-foal." Elsewhere the snipe is known as "moor-bleater," "heather lamb," "God's goat," "sheep of the marshes," "goat of the skies," and so on. By these peasant names the world over the breeding haunts of the snipe are indicated, because it drums only where it breeds. The note is made by the male snipe circling in the heavens high above his mate while she sits her eggs, and it is caused by the rush of air through the bird's tail and flight feathers as he dives giddily earthwards at the top of his acceleration.

* The legend of the snipe: Once upon a time a Norwegian farmer possessed a servant who day after day took his horse to graze in a waterless pasture. The horse stood it as long as it could, but one day the man, on going to catch the animal, could not find it. He then went for his master, and the two of them searched together, whereupon they were astounded to hear the neighing of the horse some considerable distance away, and seem-

* Quoted from "Inland Birds," by H. Mortimer Batten.

ingly over their heads. Looking in that direction they saw the animal drinking at the water's edge in a neighbouring pasture, but as they approached, the horse was suddenly transformed into a snipe, which took wing at their approach and vanished into the heavens with a mocking neigh.

Foxes, stoats, cats, and the like are subjects of general hatred in the Wild, and when these prowlers are astir at night time birds often follow them, betraying their presence wherever they go, till the luckless hunter is forced to seek refuge in a drain or in a hollow wall till the kill-sports forget him. Often at night time I have followed the course of a fox down from the heather, through the pine woods and the birch swamps, to the valley, by the betraying cries of the lapwings and curlews which were following and warning their comrades. If perchance Monsieur Reynard disturbs a jay or two he might as well throw up the sponge, for the voice of the jay is enough by day, when it is subdued to some extent by the other feathered vocalists, but by night it clatters across the landscape to the exclusion of all else.

Jays have always plenty to say about those shady folk who move by shady ways, but in all conscience these talkative birds have precious little room to

talk. Those who live in glass houses should not throw stones, and if jays had less to say about other people there would be fewer jay corpses nailed to the vermin board of our friend the keeper.

Compared with our wild birds, our wild beasts are a silent lot, and indeed they have need to be. Most of them are mainly, if not entirely nocturnal, with the result that much of their lives is a closed book to mankind.

But we must not imagine for one moment that these animals of the night prefer the darkness to the sunshine. On the contrary, they love the warmth and the caress of the mid-day breezes, and the reason why they choose the night is not far to seek. Man rules all their ways and their movements, and in countries where man is not, those same beasts which with us are so strictly nocturnal, hunt and live during the daylight hours.

During spring nights foxes can often be heard. Run the car into some quiet woodland backwash, switch off the engine on a down grade, and allow the car to gravitate to a standstill. Thereby one can often steal a march on the Wild folk. They are too familiar with the sound of passing motor vehicles to pay more than passing heed to them. If the car stops with engine going, they locate it

to a standstill and are suspicious, but when, on the other hand, the sound gradually ceases, they conclude that the vehicle has passed on out of hearing.

The most usual call of the red fox consists of three sharp yaps, then he walks on ninety paces and yaps again. The vixen at this time of year utters a blood-curdling and entirely fiendish yowl, which is rarely heard, though once heard it is not likely to be forgotten. Cubs yap in their play much like fox terrier puppies, till one of them is lost, or thinks he is lost, or thinks that if he is not lost he might very easily have been, when he points his small wet nose to the sky and lets forth a long, droning, dismal caterwaul, such as a super-intelligent cat might utter if its master lay dying.

A rabbit at night time will squeal in a way which seems to fill the whole valley, and so will smaller animals when lifted by an owl, but in that case they do not squeal long. The owl is said to have cruel claws, and so it has, but considering the owl's line of business, if its claws were less cruel they would be less merciful. It takes but a few seconds for that armed grip to penetrate to the vitals, then the cry of anguish ceases for all times. I remember once picking up a wounded owl, but I was not long in realising my error. The clawed hands closed on

my fingers, penetrating almost to the bone, but luckily I had the good sense to place the bird on the ground, where it at once released its grip. Had I tried to free my fingers by more forcible means, a much more painful wound, and possibly a dangerous one, would have resulted. Thus I can speak with real feeling as regards the grip of the owl.

Badgers do not "cry," as certain ancient and extravagant poems would have us believe—at least I have never heard one do so, though I have watched wild badgers many nights. They are the most stoically silent wild beasts we have, and I know only the pig-like gruntings. Thus, the crude verse which tells us that if we hear a badger cry as it crosses our path, we are numbered with the dead, is probably nearer to the truth than its author ever meant it to be. The stoat has a loud and penetrating call, similar to the sound caused by beating two flints together, but it is heard only when the animal is in great peril, such as when attacked by an owl or when engaged in deadly combat with one of its own race.

The main difficulty in interpreting bird and animal sounds lies in the fact that no combination of human letters is adequate for the purpose. Birds have no teeth and no lips, and so consonants are

denied them, and in any case it is the tone and the cadence, rather than the actual note, which is all important. Take the attempts of certain well-known naturalists and their endeavours to write down the spring note of the snipe: Pralle puts it "jick-jack," Woolley "keet-koot," and Thompson "tinker-tinker," but to me this note is precisely "chipp-churr" and nothing else. Similarly, if you or I heard a bird or animal call, and each of us wrote down our impressions of the sound, the results would be entirely dissimilar. To write it in music is equally hopeless, and thus clearly we are in need of a new code for rendering in readable forms those sounds which at present we have no way of rendering. Here is scope for some new genius, whose name might be passed down to posterity higher than those of Mendelssohn and Beethoven, or of Shelley, the musician of words.

THE HOME OF THE SALMON

ON my own river the nets near the sea are down all the week, but on Friday evening they are lifted, and the salmon are given free run up the river till daybreak Monday, but for the remainder of the week it may be said that every salmon that tries to mount, falls foul of the fishermen. A few turn back and escape, but thousands, of course, find their way to the English markets.

During the autumn the salmon are mounting the rivers on their way to their ancestral spawning haunts, and since they are given free run of the river for so short a time, one would think that comparatively few would reach their destinations at the headwaters of the rivers far inland. Yet, in spite of the immense drainage the netting, etc. places upon the number of fish that leave the sea, literally thousands successfully run the gauntlet. This river is not considered the best of the many tributaries which flow into the famous Tay, yet

if one knows the recognised spawning beds of the salmon, to which they return year after year, one finds the river stiff with them, day or night, during the early winter. For example, there is one particular bend which for some reason the fish specially favour, and standing on the bank one can see the leviathans rolling about over every yard of the stream. For a minute or so there is comparative quietude, then suddenly in the centre of the current the water is lashed into foam, and one sees a kingly fish heading upstream or down as though in terror of his life. Then another dashes across the surface and another, till in a second the whole sheet of water is in a state of turmoil, black shapes of all sizes dashing hither and thither in seemingly aimless pursuit of one another. Naturally a large number of them are poached by means of hand lines, to the ends of which are attached heavily-weighted triangle hooks. The poacher marks his fish, and throws his weighted hook just above and beyond it, when a quick snatch at the line results—or should result—in the fish being foul hooked.

The salmon will turn aside for nothing when voyaging up the rivers to their spawning beds or “redds.” In British Columbia a dam was built across one great river for water power, and, since its erection, tens of thousands of salmon beat them-

selves to death each year trying to mount. I have seen them on our own river trying again and again to mount a cauld, till finally they fell back into deep water, dazed and exhausted. If there has been plenty of rain and the rivers are swollen they come up in an unending string, and find their way into the tiniest burns. Often they become land-locked as the water recedes, and usually the hill shepherds get all the salmon they want, pickling them for winter use.

So far as our present knowledge goes, salmon do not need to eat while in the fresh water. They leave the sea well fed and in what we might term a state of satiation, and they may exist for months in the fresh water without taking food of any kind. On many rivers a disease called fungus is very apt to attack them ere they are able to regain the sea after spawning. White patches break out on their bodies, and they lie like logs on the bottom of the river till finally they die. Naturally the disease is more plentiful some years than others, and in a bad season I have seen literally scores lying in a backwash, the river bed half-covered with diseased fish. During such seasons probably not three fish in a hundred get back to the sea, and the condition of things is made worse by the building of artificial dams which delay their upward journey, and by the

polluting of the rivers. In many wild Highland rivers the disease is quite unknown, but on the Tweed and on the Tay I have taken out more diseased fish than I would care to have to carry in an hour or so by the use of a handsnackle. This was during one of the periodical enquiries into salmon disease.

There is a curious law which permits the taking of a salmon on its way *up* the river to deposit its spawn, but prohibits the taking of a fish which has safely deposited its spawn and is returning to the sea! Possibly this is founded on the reasoning that a spawned fish—that is, a kelt—is considered unfit for food, while a fresh run fish, even though heavy with spawn, is fully nourished.

Since the adult fish deposit their eggs away up the rivers, it follows that the young are hatched there. For some time they remain in millions about the waters of their birth, looking much like little silver trout—bright little fish which take a fly or a worm readily, and are a great nuisance to the trout fisher. In due course these parr begin to move seawards, drifting tail first with the current, and duly they assume their silver sea coats, acquiring a brilliance of attire unparalleled at any other period of their lives. At this stage they are known as smolt, and having gained the sea they remain

there for an unknown period. When next they mount into the river of their birth, it is either on a spring jaunt or on their first journey to the spawning redds. The fish is now known as a grilse, weighing anything between two and eight or nine pounds. Having spawned, they are thereafter salmon, and are distinctly different in appearance. A spent fish, returning to the sea from spawning, is called a kelt—a thin and useless beast, as a rule, and it is him the law protects, albeit the chances against his safely regaining the sea may be ninety to one.

It is an interesting sight to watch a big salmon returning down a small burn when the fear of being land-locked is upon him. He travels along the surface and at immense speed. One sees him flash down a rapid and into the deep water; next moment he appears at the tail end of the pool, and plunges down the next rapid, lashing out wildly should he find himself in water too shallow to cover him. I have stood in the driving rain and watched them for hours, yet the study never loses its atmosphere of profound romance, so deep are the mysteries which man has yet to solve regarding the king of river fish.

YOUNG HEDGEHOGS AND THE CANNIBAL

RECENTLY some village boys brought me a mother hedgehog with her four young. The latter were, I would judge, about five days old, and though their underparts were completely naked, they were already provided with quill jackets sufficiently stiff to deliver quite a sharp prick. The quills were white from their tips for about three-quarters of their length, the roots being black, and they grew in perfectly even formation, giving the little animals—about the size of house mice and of course quite blind—a strangely striped appearance.

When the boy arrived with the mother hedgehog, a curled up ball of prickles, and two of the young tightly wrapped with her in his jersey, I was afraid that the helpless and naked little creatures would have sustained grievous injury from their mother's quills, but it would seem that they are almost impervious to injury of this kind, for they were



A FIVE-DAYS-OLD HEDGEHOG.

none the worse for their rough passage. Certainly they bristled like little thistle seeds, their quills appearing fully half an inch in length, and a curious point I noticed was that, having settled with their mother, their quills soon appeared to become sheathed, much as a cat sheaths its claws, so that only a sixteenth of an inch or so of the white tips could be seen through the skin. Adult hedgehogs cannot, of course, adjust the length of their quills in this way, though in other ways they have astoundingly good control over them. Another interesting point was that the two remaining young could not at first be found, but eventually it was discovered that the mother held them wrapped invisibly within the fold of her curled-up body.

Provided with a comfortable box filled with sphagnum, the family was placed in a large aviary which closely appertains to natural conditions so far as herbage and shelter are concerned, but the mother soon left the box, and scraping a hollow in the earth, settled down in a corner of the cage. Since this was obviously her choice, a nest was made there for her, and the cubs placed in it.

For the convenience of the birds in the aviary there is a small subway, consisting of a wire-netting tunnel about twelve feet in length, which runs round a right-angle corner into a second

aviary, occupying a sunnier aspect, though it is not so sheltered from the wind. So the birds can choose their quarters according to the weather, and in this second aviary I had an old male hedgehog who had lived there peacefully for some days. To gain the big cage containing the mother and young he would have to swarm up a wire-netting screen two feet in height, descend the screen three feet on the other side, traverse the subway, and finally mount a vertical step of corrugated iron fifteen inches in height. It seemed to me that such a feat would be beyond the power of such a creature, for even if he discovered the way out of his own cage, that final step into the big aviary would assuredly be too much for him.

The following morning, however, I discovered that not only had he got through, but that he was sleeping on top of the outraged mother and her brood! Near by lay a partially devoured mouse, which one of the animals had evidently caught in the open cage.

The gentleman was, of course, immediately evicted, but thereupon it was discovered that he had completely decapitated two of the young, and but for human interference the other two would probably have suffered the same fate within a short time!

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Having seen a hedgehog pick itself up and run almost with the quickness of a rabbit, in the dusk of evening, I have always realised that the hedgehog of the night is a very different beast from the hedgehog of the day, yet I would never have believed it possible for one of them to scale a corrugated iron sheet !

THE KINDRED OF THE SNOWS

THE ALPINE HARE

TO those who have studied the mountain hare, it is ever a beast as mysterious and aloof as the mist-swept heights to which it belongs. Long acquaintance with it does not tend to remove this sense of mystery ; indeed, the better acquainted one becomes with its ways, the more does one realize that half of them are a closed book, which so far as human understanding is concerned must remain for all times clasped and sealed. Certainly this applies to many other beasts and birds, but the ways of few are so whimsical and incomprehensible as are those of this wraith of the hill-tops.

The white, Alpine, varying, or mountain hare has much in common with the brown hare of our valleys, though in character it stands widely apart ; and before passing on to the more interesting features of the mountain hare's life, it would be as

well briefly to outline the outstanding features of difference between the two. The mountain hare is the smaller. Of twenty-seven mountain hares weighed one winter in the Loch Tay country, the average weight worked out at five pounds and the merest fraction. These were all beasts from the very high country, where the largest hares exist. Mountain hares shot on the lower slopes during the winter are generally the weaklings, driven down by the elements from the high country, and are therefore lighter. The largest mountain hare I ever weighed fell to my gun on Dollar Law, turning the scale at six-and-a-half pounds, and measuring twenty-two inches from the tip of the nose to the root of the tail. Thus it takes a really good mountain hare to be equal to a very mediocre brown hare. It is not such a well-nourished beast, owing, of course, to its hard, harsh mountain foods, and in the Highlands is regarded as fit only for broth. I have purchased numbers at sixpence apiece.

The most noteworthy distinction of the mountain hare is its coat, for, in common with the stoat, the ptarmigan, and a few other beasts and some birds, it acquires a snowy mantle for the winter months. The summer coat is a mixture of "blue," hare-brown, and rabbit-grey. The time of year at which the white coat is acquired depends upon the

weather and the individual animal, for early in November one may acquire a mixed bag of mountain hares—some in summer coat, some changing, and some completely changed. They begin to alter again in March; and though at one time I was of the opinion that the change was the result of a moult, as with the snowshoe rabbit (a near relative) of Canada, I have since seen so many mountain hares showing every stage of the alteration, that this view is subject to revision. It would seem, indeed, that the hair actually changes colour—no pun intended.

The winter coat of the mountain hare is really a very beautiful mantle, but the skin is so thin and tender that the fur, which otherwise would hold a high market value, is practically worthless. I have cured many pelts for the trimmings of children's clothing, but though as handsome as ermine, which it can be made to resemble by utilising the black ear-tips, it would seem to be impossible satisfactorily to fix the hair.

On many ranges in the Highlands mountain hares exist in veritable thousands. Their runways, leading to and from the more sheltered slopes and from one favoured corrie to the next, cross and criss-cross everywhere in the heather. Entering a corrie I have seen hares passing out the other side



A MOUNTAIN HARE.

in an unbroken string, and I was present at one drive, cut off midway by a blizzard, when three hundred hares fell to a scratch line of six guns. On that occasion, while the light lasted, the animals presented a most astounding spectacle, for they came over the rise till the heather seemed alive with them. Needless to add, the animals were far too thick on the ground, and had proved a great nuisance by diverting the dogs from the proper pathway of duty.

On many ranges, however, that kind of thing is an order of the past, for during the food scarcity period of the war numbers of shepherds found hare shooting more remunerative than shepherding, and, the keepers being absent, they made a good thing out of it. The result is that vast areas where mountain hares swarmed before the war are now almost stripped of them. It is, indeed, difficult to believe that so many could have been killed during so comparatively short a period.

Moreover, mountain hares, like blackgame and capercailzie, are periodically given to forsaking certain areas where hitherto they have swarmed, and to congregating forthwith about slopes where previously they were few. Thus where two years ago one would see more mountain hares than one could count during a forenoon's ramble, one may

find scarcely a hare to-day, and it is thought by keepers that these migrations are the result of the weather conditions of the seasons rather than of food conditions, which generally govern the movements of game. But no man can say with certainty why the white hares come and go; it is one of the many unanswerable riddles of their lives.

But mysterious as the ways of these beasts are from year to year, they are equally mysterious from day to day. One day we may tread the hill and see countless numbers of them. They rise from every brae we cross, to pause for their customary backward glance sixty feet on, then away again, wild now as the wind. Next day one may cover the same ground and see not a single hare. Indeed, setting out across the hill in the early morning, I have found the ground thick with them, but returning by the same way at mid-day every hare has vanished. One may count on seeing the brown hare day after day at the same places; he comes by his own private runways, prompt almost to the tick of the clock, and day after day he lives his routine life. But not so the mountain hare. He is as uncertain as the vanishing mists which at all seasons sweep his habitat.

This is a more primitive beast than the brown hare, less associated with man, less ably conversant

with man's ways, and, therefore, in common with the Alpine ptarmigan, often regarded as a fool. But the mountain hare is no fool in its own setting. There is a reason for every one of its whimsicalities, but most of the reasons are so profound as to be unfathomable.

Yet, in spite of the foregoing, the individual home range of a mountain hare is, so far as I can judge, much less than that of a brown hare. During a tracking snow I have traced a brown hare down from the heather, following the banks of a burn, a matter of seven and a half miles, into the low country, and back again to the heather, making a *détour* of over sixteen miles in a single night, and marking her familiarity with feeding grounds over seven miles distant from what I knew to be her home quarters. All the information we have on this point, indeed, would seem to show that the brown hare may be familiar with an area twelve or fourteen miles in extent, according to the abundance or scarcity of food, and within that circle she lives and dies. But the mountain hare is not so great a traveller. If there is a sunny, sheltered corrie at his disposal he may (save for occasional jaunts) never venture more than one mile from a central landmark. Indeed, day after day, he may be seen within fifty yards of the same point, and if

he leaves that area at all it is as one of a general migration, which takes him to far distant slopes, where soon he establishes a new range.

More remarkable, even, than this animal's periodical appearances and disappearances are its ever changing moods. One day the hares are tame to the border of stupidity. They are actually to be seen crouching in their forms, and approaching silently it would be possible to get near enough to hare after hare to strike it down. Next day it is impossible to approach within forty yards of one, for they are wild as the wildest March hare which ever fled a stubble field. One day they sit and stare with goggle-eyed stupidity—hare after hare within air-rifle range—but next day, though just as many hares are seen, every one rises and is away like the wind.

This "stupidity" of the mountain hare recalls a sad incident of a few years ago. A serving-maid from one of the hill-farms had set out to cross the height of land to visit her kin in the next valley, but it was winter, and she failed to reach her destination. So during the days that followed, the hills were systematically scoured by search parties, and one of these days—a dark, breathless day—the hares seemed to be utterly devoid of fear. The searchers, indeed, killed with their sticks

more than they could carry, some while sitting close in their forms, others while trying to hop back through the line of searchers. We found the poor girl at length on a boulder, just as she had sunk to rest ere the snows drifted over her.

Such explanations as we have for these whimsicalities of the white hare are, perhaps, worth offering. In the first place, like the deer, they live with one eye on the weather and shift their quarters accordingly. Like the deer, moreover, they know when the wind is going to change an hour or so before it actually changes, and proceed forthwith to move their quarters. Thus a pending alteration in the weather conditions may result in a complete shuffling and sorting of the mountain hares, which leave one slope of the mountain almost to a hare and forthwith adjourn to another slope. In this way their movements often predict a change in the weather, and shepherds take heed, but there are other times when no such backing lends purpose to their whimsicalities.

Not so long ago when out on the hill, I met with an experience which seemed to clear some of the mysteries regarding this beastie. During the forenoon the hares were unapproachably wild, though the distance was ever alive with them, but towards mid-day I saw an eagle systematically working the

corrie quite near to me. Thereafter not a hare was to be seen, and I discovered that they were hiding, singly and in batches, under the lips of the peat hags. Thus every hare had sought shelter more secure than his form, and almost within the twinkling of an eye the corrie, which hitherto had been swarming with the animals, was now apparently "deserted" by them. By dragging down the peat overhangs, indeed, one could have caught numbers of hares by hand.

While buzzards were circling, I have seen a white hare dodging about the rocks, which he would not leave, but like the grouse and the ptarmigan the mountain hares fear the eagle above all living things. Man is among the more modern of their foes ; until shot-guns were invented they had little need to fear him, but the eagle is a world-old foe, and for ages past it has stood out as the death's-head of fear. And we need to remember this : that unlike foxes and deer, hares do not possess the gift of passing their knowledge to their young, and so they cannot keep abreast of the times. It takes ages for them to acquire instinctive fear of a certain source of peril. Individuals may learn from sad experience, and grow wise, but dying, they take their knowledge with them, and the masses of their race remain in ignorance. Thus, while the deer and the otter and

the fox and the badger live abreast of the times, the hares remain as for untold ages past. That is why the mountain hare pauses ever to look back; that is why the brown hare dies, as his father and his father's father died before him, at the snare or the hempen net set across the open gateway. For not one lesson to help them in after-life do the young hares learn from their mother, and solitary from birth, each tiny leveret seeking its own tiny form, so that the cloven hoof which might claim all can claim but one, they remain solitary in knowledge, with nothing to guide them save the heritage of instinct.

It is generally said that the mating habits of the mountain hare are similar to those of the brown hare, but on this point it is difficult to judge, since the habits of the mountain hare at this period are mainly nocturnal, and to the night belong the mysteries of their courtship.

That mating goes on from February till August there can be no doubt whatever. Leverets so small that the spaniels can catch them are found during the grouse shooting season as late as early September, and during June, July and August I have seen the mountain hares following each other in strings and in a way which clearly intimated mating activities. So, like the brown hare, the mountain

hare mates the season through, and in spite of their more bleak environment the season is very little shorter, if any, than that of the brown hare.

This brings us to the periodical social assemblings of the mountain hares—the gathering of the clans, call it what you will—for the shepherds of the hills will tell you that on certain nights the white hares meet in thousands at certain appointed places, there to leap in mad ecstasy from bank to bank, or from drift to drift, so obsessed that the foxes walk into their midst to slay, to bury and to slay. Why these meetings occur and what conditions decide them it is impossible to say. Mating instincts, possibly, yet they occur at all seasons. Weather conditions? No! It may be clear and moonlight or a blizzard may be in full blast, yet the fantastic meetings take place. And this is the strange part about it—that the night the hares meet in the Grampians they meet also in the Kells; indeed, throughout the length and breadth of the ranges these strange orgies are taking place amidst the cloud-laden heights which will ever hold their secrets.

On the whole the mountain hare always seems to me a tragic beast, whose life is in the bond of hardship, and whose foes are ever at his heels. This is true of the brown hare, but more so of the white.

If he himself is not visible we are sure to find his white jacket, cleanly capsized by Monsieur Reynard, somewhere along the snowy waste, or a raven rises at our feet from the remains of a mountain hare, trampled into the peat hag. During winters of exceptional severity I have known the white hares to come down into the valleys, there to gather about the small holdings, heedless of man and of his dogs, which at such times respect the truce, for the hares are not worth killing.

Had Robert Burns known the mountain hare as he knew so many beasts, and endeared it to the hearts of the Scottish people as he endeared his "wee sleekit, cowerin', tim'rous beastie," it would be better known as the whimsical and pathetically solitary beast that it is, and it would hold a higher place in the regard of the Scottish people. Few creatures have received such scant praise and had less attention bestowed upon them than this denizen of the hill-tops, regarded only as fit for making broth. We find that during recent years field naturalists have cast very little light upon its ways. With one or two exceptions they have been content to quote each other, for not only is the mountain hare a difficult beast to study and to obtain any interesting information regarding, but also its home is too remote from the centres of

civilization for many to become acquainted with it.

Yet, game to the end, and ever the common game of all, the mountain hare manages not only to hold on to existence, but if given any chance whatever it will thrive and multiply, and even as an exile from its native hills it can very ably hold its own.

WILD NATURE AS A WEATHER PROPHET

IF we knew enough about the birds and beasts, say nothing of the trees and the flowers, I believe that we should find in them a weather prophet more accurate and far seeing than any instrument man has ever made. Many birds and beasts live with one eye on the weather ; all their movements are governed by the condition of storm and wind, and there is no shadow of doubt that some of them at any rate can tell what is going to occur days, if not weeks, ahead.

There is, of course, a good deal of fallacy attached to nature's forecasts. For example it is said that a rich berry harvest indicates a keen winter ahead. In some cases this is borne out, but I seem to recollect abnormally green winters which were preceded by a berry harvest of unusual abundance, and vice versa. The theory is a pretty and a natural one, but circumstances would seem to indicate that the berry

harvest is decided by what has gone before rather than by what is to succeed it.

Again it is said that when the swallows fly high, fine weather is in store, and that when they fly low rain is near. There is a certain amount in support of this supposition, because the density of the atmosphere decides up to a point the altitude at which the insect life on which the swallows depend besports itself. But the sign is far from being infallible, because fine weather may hatch out a certain species of insect which never rises to any great altitude, and again insects are at all times hatching from the surface of the water, and a sudden hatch will bring down the swallows no matter what the weather conditions.

There are many other beliefs and suppositions, but most of them are so trivial that space does not permit their examination, and more useful fields of exploration are at hand.

The Red Indian is famous as a weather prophet, and certainly these people are able to foretell the approach of storms with an accuracy which seems uncanny. By years of hunting and outdoor life they have developed what might be termed the weather sense, possessed to so marked a degree by many birds and beasts. The Indian may know

what is coming in the immediate future by the condition of sky and wind, but he depends upon such observations to a less extent than upon the birds and animals. I have asked an Indian in the fall of the year what kind of a winter we were in for, and he has told me with perfect faith in his own belief. Indeed he and his people were making their plans accordingly, and if by dint of judicious questioning—Johnnie Indian hates to be questioned—you can find out his reasons for those beliefs, he will speak of the migrations of birds and animals—perhaps small fur bearers, perhaps a general movement on the part of the deer, or again something he has noticed in the behaviour of the birds. There is no great secret attached to it, and by a hundred different signs the Indian comes to his conclusion. It is all a part of the science of woodcraft, but it goes to show that the birds and beasts unquestionably know what lies ahead. The Indians themselves migrate, tribe after tribe, because they know what the lean months ahead are to hold—going perhaps to distant fishing grounds where the conditions will be most in their favour.

I hope to show later that just as the birds and the animals are the red man's barometer, so are all our wild creatures a fruitful source of suggestion. Any man who is face to face with the Great Outdoors and

the folk of the Great Outdoors all day and every day, is in a position to become almost as proficient as the North American Indian—not quite so proficient, perhaps, because in this country the wild creatures do not migrate overland to the same extent as in a land so vast as that which the red man hunts. For example, if an abnormally keen winter were at hand, our foxes and deer would not migrate *en masse* from the Highlands to the low-lying fens, which would be nothing of a journey compared with those performed by many of the wild beasts under the eye of the red man. So, because our land is small and our winters not over keen, it would be necessary to watch our weather prophets closely in order to learn anything from them.

I remember one dead clear frosty sunset in Northern Ontario meeting an Indian named Joe Long, with whom I was well acquainted, and he advised me that we were in for a storm before daybreak. It was a perfect evening, and there were no indications of a change in the weather, but just after midnight a terrific blizzard swept the country and caught many white men napping.

But you or I might have foretold that storm just as the Indian did, had we been in the woods at sun-

down, for he had seen pack after pack of willow grouse flying high, finally to pitch head foremost into the drifts so as to bury themselves completely. It is well known in the North West Territory that when the birds behave in this way a blizzard is near at hand.

One more example of the human power to prophesy ere we turn ultimately to the Wild Folk. I knew an old Highlander who could foretell the weather with infallible accuracy for twelve hours ahead, with probable accuracy for twenty-four hours, and with praiseworthy accuracy for a slightly longer period. He had no instruments of any kind in his house—indeed he scorned such modern methods, stating with pardonable pride that they only misled him.

This man had lived the whole of his life at the foot of one of the highest and steepest mountains in Perthshire, and from his gate he could look right up to its summit. That old mountain was his weather prophet. Morning and evening for over eighty years he had looked up towards her hoary crown, observing the depths of the shadows, the altitudes of the clouds, the visibility, colour, and cloud formation, and by these signs he knew. Over and above this he had acquired the “weather sense” and he could not have told you how he

knew, nor could he have passed on his knowledge to another.

At one time I lived in a house through the garden of which flowed a small stream. The stream rose from the face of the mountain four or five miles distant, and normally during the summer months it was the merest dribble, but at any time a heavy rainstorm, sweeping the hill face, might convert it into a roaring torrent. Not every storm affected it in this way. Rain from the south, for example, might leave it unaltered, while a more moderate shower from the north might cause it to rise bank full. So one was never able to tell with certainty how the stream would behave itself.

During the summer months scores of house rats would forsake the village and take up their abode along the banks of this stream, as house rats do ; so that for several weeks of fine weather, with the burn at summer level, no rats would be heard under the floors of my old house. Then the evening would come—perhaps in July—when we would again hear them, at which we would exchange nods, with some such local comment as : “ I wonder if Miss Green has shut up her goslings ? ” or “ Old Jim Foible hasn’t carted his hay from the low meadow.”

For the return of the rats was a certain indi-

cation that within a few hours of our first hearing them, the stream would rise and flood out their summer homes. I lived at that house several years, and the sign was accepted without question.

During the air raid period a lady stated that several hours prior to a bomb falling on her dwelling and destroying a portion of it, she heard a great disturbance among the rats in the ancient walls. They appeared to be leaving the building with one accord, and dead silence immediately preceded the falling of the bomb. All this was quoted in several newspapers at the time, and met with a good deal of ridicule, but personally I would ridicule nothing bearing upon the preconception of animals. At all events it would take a good deal to shake the faith of the sailor in the belief that rats will forsake a doomed vessel, and over and over again it has been proved that rooks will forsake a tree for nesting purposes when it grows too old to be safe.

Brer Rabbit is another excellent weather prophet, for he very much dislikes feeding on wet grass, and so he comes out and makes his heavy meal well before the storm.

In Scotland it is always said in the vicinity of

the big lochs that restlessness on the part of the wild geese and the wild swans indicates wild weather. For some time I lived on the shores of Loch Ken, and repeatedly we noticed the infallibility of this sign. If the wild swans, which for weeks past had lived sedentary lives on the shallow waters of the Galloway end of the loch, were seen one bright day to rise laboriously awing and fly afield, we knew very well that the dry spell was at its close.

The red deer of the Scottish Highlands is a master of hillcraft, and as a weather prophet he runs neck and neck with the blue mountain hares which share his habitat.

Truly do these Alpine creatures live with one eye on the wind and the other on the weather, and their whereabouts are determined entirely by the two. The deer which is to live must at all times watch the wind, and in this, in common with other creatures, he is possessed of a wet and super-sensitive nose.

It is often said by sportsmen that when a dog is thirsty and his nose becomes dry, he loses his keenness of scent, and I have seen keepers resort to the indelicate process of moistening a dog's nose by artificial means to assist him in his hunting.



A LARGE HERD.

The facts, however, might be better put. When a dog's nose dries, his exquisite sense of smell probably remains unimpaired, but he loses his sense of wind direction, without which the previous sense is useless.

If you or I wish to judge the direction of the wind, the simplest method is to moisten the back of the hand then turn the hand slowly till we reach the cold side. The cold side is the wind side, and that is why the dog and the deer wear wet noses.

I say that the most exquisite sense of smell is useless unless coupled with an equally keen sense of wind direction. Take, for example, the stag feeding in a mountain corrie. Owing to the broken country surrounding him, the wind, or rather the diverted currents, descend upon him from a dozen different directions in as many seconds. He is indeed in the centre of a veritable vortex of air blasts, but as you watch him from 200 yards distant, suddenly he flings up his head, and without looking round, he makes clean away from the place at which you are lying. Clearly he has scented you, but never in his sudden alarm does he come straight towards you—why? Because that wet nose of his telegraphed instantly to his brain the precise direction from which that tell-tale draught, among the many, came.

So by Nature's provision, an animal's nose becomes dry when it falls sick. If it is a hunter it is thus prevented from hunting, if hunted its prompting instincts bid it hide from the foes whose direction it could not judge. Thus it is content to lie low and say nothing, which is Nature's best remedy for sickness.

Deer choose their quarters from day to day according to the wind. If it is an east wind, you know that you will find them in the deep corries, sheltered from the east, with the most sunny aspect possible, and so on from every point of the compass. During a strong north wind the deer and the mountain hares congregate on the southern slopes, but I have known both the deer and the hares to forsake the sheltered side early in the forenoon and to go over to the wind side. So sudden and unexpected was the move that it left one mystified, but the mystery was cleared when a few hours later the wind veered and stormy weather swept in from the other quarter. For now the deer were on the sheltered slope, and the sheltered slope of a few hours ago was now the stormy slope.

Mountain hares exist in veritable thousands on certain of the hills I have had under observation, and I have noticed this power to forecast the

weather more especially among the hares than among the deer. Early in the morning I have walked over a stretch of moorland and started a hare from almost every tuft, but returning by the same route two hours later not a hare was to be seen, albeit the weather remained unchanged. Before long, however, the change which "cleared the air" has occurred.

Mountaineers have often told stories of seeing strings of white hares migrating across the ranges preceding a great blizzard, and I myself have known these creatures to forsake a vast area of country early in the winter and to make their way across the slopes to some region where previously they have been rare. That these movements are governed by what the weather holds there can be little doubt, but an entire lack of system in our observations prevents us from arriving at any definite conclusions. One individual may see enough to feel quite convinced in his own mind, but it would require an enormous mass of data, based on skilled and accurate observation, to convince any but himself, and data of this kind are very difficult to obtain. But there is no fallacy attached to all this. It is a condition of things well known to every hill man and accepted as unquestionably as the season. If someone gifted with the power of observation were

able to devote his life to the study of Nature's weather prophets, I feel sure that his labours would be very fully repaid.

As regards storms near at hand, these are foretold by scores of Wild Folks. Preceding a blizzard, I have noticed at sundown that the herds of deer were lower down the mountain face than for weeks past. I have, indeed, noticed a general movement to the lower levels on the part of hares, deer, and grouse some hours before the blizzard came, and while there were still no signs of it which the human eye could detect.

Anglers know well that a change has an effect upon the fish several hours before it occurs. The river by which I spent my boyhood was thrown into heavy spate if rain occurred in the range where it rose fifty or sixty miles away. Owing to the height of that range, heavy rain often swept it when with us it remained fair, and so though there had been no rain in our locality, the river might rise unexpectedly any day of the week, bearing on its coloured water a glut of food for the trout. But always we knew from the behaviour of the trout when a spate was coming. Sometimes two or three days before it came, sometimes a day, sometimes only a few hours, the trout in our waters would assume a

dourness of attitude which no one could mistake. They stuck to the deep water, and would not move, and the angler, having flogged in vain, would stroll over to another brother of his craft and remark that trade was dull. To this would probably come the answer: "Yes, the fish are expecting a spate."

The ptarmigan, the swift, the salmon, the starling, the rook, and the field vole are all creatures which it has been claimed foretell the weather by their movements, say nothing of such insects as the bee, and only the inability on our part to read the signs aright prevents us from obtaining an infallible key to the secrets of the weather goddess. We have before us an interesting field for exploration, and in the foregoing I have tried to show not how much, but rather how little, we know of what is a great science, and I believe that as time passes, man will learn not only to tell the weather, but to obtain much valuable information concerning the seasons, from the ways of birds, beasts, and insect life.

THE HAUNTS OF THE EAGLE

THOUGH the king of wild birds in that it is by far the strongest and most formidable of our birds of prey, the golden eagle possesses many characteristics which are anything but regal. In many ways it is a less kingly bird than the genuine falcons, for it lacks their reckless dash and glorious fearlessness, but nevertheless birds and beasts which have never before seen an eagle, shrink to earth in terror or flee for their lives immediately on perceiving that sinister outline against the sky.

I have seen grouse rise from the heather and fly clean across the valley in almost incredible numbers on seeing an eagle swoop round the crags, leaving the hillside in undisputed possession of His Majesty—except for a raven, seated on a boulder below, and uttering his sepulchral croak in heedless defiance. The raven and the peregrine, indeed, seem to be the only birds in all the mountains which habitually pay little heed to the eagle's passing.



A GOLDEN EAGLE.

The golden eagles of Scotland feed largely on young rabbits, grouse, and mountain hares, but I do not think they destroy many lambs. It is a strange fact that a bitter feud seems to exist between the eagles and the mountain foxes, and the fox caught out in the open stands a very poor chance of escape. Reynard, of course, fights desperately for his life, but he is at an unfair advantage when attacked from above, besides which the powerful claws of the eagle are terrible weapons.

Last spring I visited the scene of an eagle's eyrie in central Perthshire. It was in a great, cup-shaped corrie, the crags surrounding which were so immensely high that only occasionally could one catch a glimpse of their topmost extremities through the clouds. As we entered the corrie, it looked as though the shelf which the keeper pointed out as being the nesting place of an eagle for many years past, was only about ninety feet from the ground and a mile distant, but as a matter of fact it was over 400 feet up and over four miles away! Deceptions of this kind are common in the mountains, owing firstly to the immensity of the view and secondly to the clearness of the atmosphere.

No human being has ever gained that shelf, though many have tried, and reaching the rocks below we

fired a shot into the air, and saw the old bird rise and glide away. A minute or two later a blinding snow-storm came on, though it was well into May, and swelteringly hot in the valleys.

Eagles are silent birds, and the only call I have heard is a thin, flute-like "kee," one of the rarest sounds in nature, though the young are said to call to their parents with a kind of a yapping bark. Their flight is very majestic, as they will glide and soar for indefinite periods without movement of the wings. One can recognise an eagle miles away by the majestic ease of its flight, though as stated elsewhere, I have mistaken a great black-backed gull for an eagle at a distance. The shapes of the wings are quite different, however, those of the eagle taking an upward sweep towards the tips. The great black back is the largest of our gulls, and is far more destructive among lambs than is the eagle.* Its flight resembles that of the albatross, as it will glide in the heavens for hours on end, and is said to sleep awing.

The Sea Eagle or Erne is larger than the golden eagle, and, if anything, rarer. These immense birds haunt the sea cliffs for the most part, as they feed largely on fish, though they travel inland when

* Eagles regularly lift dead lambs and carry them off, which has given rise to the well-established belief that they are so destructive to the interests of shepherding.

the salmon are running, and are never averse to a meal of hare or moorgame. They are even more addicted to carrion eating than is the golden eagle, for in this respect the king of wild birds descends to the level of the plebeian vultures, at once abandoning the claim to royal blood which the majesty of his flight suggests. Not long ago a stalker with whom I am well acquainted found an adult eagle and its two young feeding on a dead sheep on a lonely Highland moor. On his approach the old bird flew away, circling and calling, but the two young ones were so gorged that they could not rise into the air. He could have caught them both had he desired to do so.

All our birds of prey increased considerably in numbers during the war when there were few keepers to disturb them, and some of the ancient nesting haunts, which for years have been abandoned, are now again in use. It is good that such great birds as the eagle should be allowed to live on, for without them the mountains would lose much of their romance.

A TRAGEDY IN THE DUSK

NOT very long ago I was motoring just after sunset over a wild stretch of moorland country when a rabbit ran across the road just ahead of the car—not an uncommon occurrence. Something, however, in the way in which that rabbit ran prompted me to stop the car and wait, for I knew very well what was in the wind. Watching in the direction from which the animal had come, I presently saw something moving in the half light, and I said to my companion: “Do you see that stoat sitting bolt upright among those dead thistles and watching us?”

But the animal was keeping so perfectly still, and it so exactly matched the thistles surrounding it, that my companion could not see it at all. I then resorted to a trick well known to country boys—that of imitating the squeal of a rabbit, which can be done by drawing the breath sharply between

pursed lips. Instantly the stoat jerked into life and came bounding towards the car, which actually barred the way along the trail of the rabbit he was running. Finding this out, and evidently recognising us as human beings, the ferocious little creature hissed and chattered at us with the utmost fury, darting from point to point along the old stone wall, his tail bushed out like a bottle brush. He told us in the most unmistakable language that for two pins he'd come along and worry the pair of us, but, fearing to face the car, he cut off down the road and crossed it forty yards away, still in pursuit of the wretched rabbit, and quite heedless of the fact that both of us had dismounted and were showering stones at him—with more energy than accuracy, it is true.

“What a ferocious little fiend!” remarked my companion. “Do you think he will catch that rabbit?”

Few things on earth more sure! We went to the wall and watched—saw the stoat in the centre of the field, darting hither and thither like a hound trying to pick up a lost scent, and it was very curious to note that the other rabbits in the field took not the least notice of this little demon in their midst, evidently knowing that, having struck one trail, he would stick to it, even though nine hundred

more crossed and criss-crossed. He soon picked up the scent, and in a second or two was gone, travelling at a speed which was almost incredible for a creature so short in the legs.

It was deadly still on the mountain side, the distant yapping of a sheep dog and an occasional crowing of moorgame being the only audible sounds. After a minute or so my companion held up his hand and said : " Do you hear that ? "

I listened. Faint and far in the distance we heard a thin-edged, pitiful squeal, which told the story of a rabbit whose trail was coming to an abrupt end. We could picture the tragic scene as though it were taking place before our very eyes—Brer Rabbit, crouching in the grass, hypnotised and unable to escape, while that wretched little killer leisurely approached to do its deadly work.

On more occasions than I can recall I have picked up rabbits lying on the ground, or pursued and caught them in my hands, owing to the poor creatures being partly or entirely paralysed after the pursuit of a stoat or weasel. The helpless rabbit may be entirely unharmed, its enemy not yet having approached to within thirty feet of it, yet as powerless to escape as if its spine were broken. On one or two occasions the rabbit I have found had

actually escaped and was no longer in peril when the paralysis fell upon it, but so severe is the attack that it takes some hours to pass off sufficiently for Bunny to pursue his affairs in a normal way.

NATURE'S WIRELESS SYSTEMS

I THINK we can safely dismiss the idea that even the most intelligent animals are able to converse and debate like ourselves. That is a power by which man stands supreme, but of course we have no proof that there does not exist a means by which ideas can be conveyed from mind to mind other than by speech. There may be a silent language of which we know nothing, and by the power of which sounds become superfluous, used only to express anger, fear, pain, and other emotions which even man, with his highly developed vocabulary, may express by incoherent noises. So much, however, is merely conjecture, and since such lines of thought lead us immediately out of our depth, we had better dismiss the subject as speedily as possible.

Generally speaking, wild animals are given certain obvious means of communication which they practise instinctively, and often unwittingly. When, for example, the rabbit colony is feeding in

the pasture on the hillside and one of them perceives danger approaching, he instantly and unknowingly spreads the news to his clansman. It is flashed all along the stream banks and down into the next pasture in a very few seconds, and this without a sound to betray their whereabouts.

Nature's method in this case is obvious. When a rabbit is feeding quietly its white tail is not conspicuous, but immediately it rises in flight the bobbing danger signal catches the sight of those around. They too rise and speed away, warning still others, and by this simple means of multiplication no time is lost in the working of the wireless system. Hence the reason for the rabbit's white tail. The individual wearer of it obtains no direct benefit from his own possession. He would be better off with a green tail, and so the adornment exists for the community, not for the individual.

The antelope of the prairies employ a very similar system, which dispenses with a vocal alarm. When feeding ordinarily their white stern signals are not specially noticeable, but immediately one of the animals becomes suspicious or alarmed, the white hair stands straight out in a most surprising manner, resembling a patch of mountain snow which all around must see. At once their

heads twitch in the direction of the danger signal, and all eyes turn to gaze where she is gazing, so that the method proves more than a signal—it proves an indicating arrow as to the whereabouts of the lurking foe.

Other beasts specialise in *distingué* tails for other reasons. The white tail feathers of the “black” moorhen enable his friends to ascertain his whereabouts among the dark labyrinth of roots at the water’s edge. The white tails of deer enable their half blind young to follow them through the security of the shadowy undergrowth, and also help to keep the herd together. Each distinctive marking or peculiarity has its special uses, which are so numerous that they would rapidly lead us from the subject in hand.

There are other systems of intercommunication in use in the woods which deserve comment, but almost all, viewed in the unemotional light of straightforward reasoning, exist for one purpose only—the survival of the races to which they belong, the bringing about of happy unions. Sometimes these unions are lifelong affairs, but as a rule, alas, they exist only for “the sweet o’ the year” as “The Winter Tale” has it.

Why do the badgers and the bears stretch themselves to their full height and leave their clawmarks

on the timber—why do they return night after night to rub against protruding shelf or rail end?—because in the wild, noses are keen, and convey much which we should convey in words or by letter or even by telegram. Each in this way advertises his or her whereabouts, and restless voyagers read the sign and are able, if so it be, to follow it to a happy conclusion. These calling places are the agony column of the woodland press, and many wild beasts have them. Sometimes we find that an animal in captivity resorts to a certain curious habit which long baffles us, but invariably, in the end, we find that it has a direct bearing on the mating problem.

The lonely beaver advertises blatantly for a wife by leaving his castor signs at every crossing of the creeks, anywhere, indeed, where voyagers of his own race are likely to pass. The hares have marvellously developed scent glands, so efficient that they are able to find each other where their meeting is most necessary for the survival of their race—that is, where distances are great and hares are few and far between. Having regard for the nature of the hare, his unusual number of foes which have all but exterminated him over vast areas by the close of winter, we must take off our hats to the method kindly Dame Nature has adopted for

bringing together the few survivors when the Love Moon comes. It is a method more efficient than the twilight song of the coyote, which at sundown conveys to each the whereabouts of his nearest neighbour, for hares travel to meet each other over areas so vast that even the report of a big gun would fail to carry.

All these, then, are nature's means of intercourse, and at least render speech unnecessary, just as it would be inadequate, as regards the first essential of life—excepting, of course, the jackal. Even the jackal does not rely entirely upon his vocal powers, for like the wolves, he has his calling places, any conspicuous feature of the landscape, passing which he leaves his record for others to read, as he can read the records of those who have gone before, as Mr. Thompson Seton describes.

Birds make greater use of their vocal powers than do beasts—indeed the majority rely entirely upon their voices for finding each other. So it is that birds of the great distances have usually wonderfully penetrating voices—for instance, the curlews, the oyster catchers, and so many fowl of the open seas and of great inland waters, while those which wander little have no need for shrill voices, though they may gladden our woods with their sweet songs.

Generally speaking, the vocabulary of birds is far less limited than is that of the most intelligent beasts. The wild beasts of our own land are a strangely silent lot, but many people would be surprised at the notes certain birds can utter—generally the most intelligent of them.

Hérons possess a wonderful vocabulary over and above the familiar “quask” which every angler knows. Visit a wood in which the birds are given to congregating during the dark hours, and well might you think it a place of evil spirits. Herons croak and rasp and squeal and gurgle in the ordinary course of conversation with each other, and listening to them during these friendly meetings one cannot help but feel that matters of moment are being discussed by the community. And indeed there must be matters of moment to discuss, or how do so many anglers fit in without quarrelling, each his allocated fishing ground, where he may be seen evening after evening, when fishing is so scarce and fishermen so many?

The industrious starlings have a surprisingly wide range of call notes and alarms, and during their brief leisure moments a pair may often be heard, one seemingly answering the other, from 200 yards or so apart. “It’s a fine evening!” “Told you it would be.” “What are you doing to-morrow?”

"Worming I guess." "Husband home yet?"

"No, but soon will be."

In addition, starlings are wonderfully clever in mimicking the sounds of their habitat which impress them. In my own moorland country the curlew call is the most common of starling calls, in the fens they mimic the strident note of the heron, and I have known city starlings to mimic the peculiar noises of machinery.

From the foregoing it will be seen that, so far as one can judge, vocal utterance plays a very superficial part in the converse of the Wild, except among certain birds. Words are supplanted by other means, and under the given circumstances, usually more effective means. Wild beasts learn to read each other's feelings by looking at each other, just as we do, and if we had no adequate means of speech, our powers of expression reading would be much greater than they are. Wild beasts teach their young by example, which, in a way, is by signs, just as the deaf and dumb are taught. They may, of course, possess a power of telepathy unknown to ourselves, but there is little to indicate it.

The simplest of language suffices their needs. When mother encounters the scent of man she

bristles and steals away, and ever after, her young, encountering that scent, are aware of a strange thrill of fear, which causes their hair to stand on end as they make tracks elsewhere. Someday they may meet man in the flesh, which may be their saddest day, or which may mark the coming of an even greater wisdom.

For their other emotions, the simplest expressions are sufficient. Ambition, in the sense we know it, the desire to improve, does not exist, and so their need for verbal expression is cut down enormously for a start. Think how few words we should need if we knew not ambition—no desire to live when death first calls, no building of bridges, no schools, no flags, no high and honourable seats on earth, no striving for riches—nothing, indeed, but just to live and love and breed our kind, then go as we are bidden! Why should the Wild Folk talk? Retrospect plays no part in their lives save in the sense that it is the father of wisdom. Their chief task consists of avoiding their foes from hour to hour, and here actions, rather than words, are needed. They have other means of intercommunication which we do not share, according to their lives. If we possessed noses so delicate as theirs, speech would come to play a second part, and probably the less said the better.

THE PIRATES OF THE GLEN

A PAIR of Great Black-Backed Gulls have for several weeks been haunting the glen from which I write (Killin), and the opinion prevails that these are the worst vermin birds we have. The eagle is not unknown in this locality. I know of two eyries within a twelve mile radius, but any of the keepers would prefer eagles to Great Black-Backed Gulls, were it a matter of choice. I would, indeed, arrange our vermin birds as follows in the order of their destructiveness: (1) the great black-back, (2) the lesser black-back, (3) the hooded crow, and (4) the carrion crow. Ravens, though almost or quite as numerous as hoodies, are not such habitual egg thieves. They are the scavengers of the hills, and though they will readily attack any wounded bird or beast, they rarely kill the fit. The peregrine is, of course, the gentleman pirate of our wild birds, but because he is a gentleman, and looks it, we can forgive him much. Eagles

certainly lift grouse now and then, but it is not so much what they lift as what they scare which counts against them, and the same applies to the buzzard, which does little or no damage by its killing, but is detested on account of its gliding, eagle-like flight, which is believed by many sportsmen to scare grouse from the regions over which it hunts. I have, however, never been able to satisfy myself that this is so.

But the great black-back is the only one of our carnivorous birds concerning which one can find nothing favourable—unless it be that the soaring powers of its flight is rivalled only by the eagle, and surpassed only by the albatross. Not long ago I watched one for over thirty-five minutes as it hung above the heights of Glen Lochay. Seeing him far off, a mere speck in the heavens, a slight difference of opinion at first prevailed as to whether it was a great black-back or an eagle, but as the bird floated nearer, moving the time without motion of the wings, the question was settled—by reason of the fact that a great black-back floats, and appears as a thin straight line, whereas the eagle generally wheels, and the upward tilt of his wing-tips is unmistakable. The bird came slowly up the glen at an altitude of about six thousand feet, and during the whole time that we watched him it

was not possible to note a single motion or tremor of the wings.

We were, at the time, about two thousand feet up, and descending a few hours later to the glen bottom, we saw both black-backs (our local birds presumably) beating up and down the burn, much to the annoyance of two oyster-catchers and four or five lesser black-backs. The latter is a very formidable bird, and the stalker who accompanied me stated that the smaller gull is the more destructive of the two so far as game is concerned. He considers the lesser black-back a greater egg thief, and he may be right in this, for certainly, flying low, they appear to harry the glens much more actively.

But game preservation is not the only interest, though certainly it takes the heaviest toll of such birds and beasts as certain people are happy to dub vermin. I personally have been interested in game preservation all my life, but the vandalism and cruelty of game keepers, among whom I have many friends, is a source of continual annoyance to me. It seems to be of no use arguing with them. A keeper will cheerfully admit that he has never known this or the other bird or beast to be in any way injurious to his game birds, and will, moreover, admit its usefulness in other spheres, yet when you suggest that he cease his lifelong warfare against



A GREAT BLACK-BACKED GULL.



A YOUNG RAVEN CRYING TO ITS PARENTS FOR FOOD.

it, his smile is noncommittal, and you know that you have made no headway.

Almost daily the two great black-backs under discussion are to be seen perched among the rocks in the centre of the Dochart River immediately above the Killin bridge. Quite well they know that, though elsewhere the hand of every man is raised against them, here, in the centre of the village, they are safe. They pay no heed to the guidwife who issues from her riverside cottage to throw her potato peelings into the river, nor yet to the merry bands of children on their way to and from school. Even the keeper with his gun may walk by unheeded, for evidently they realise that shooting is taboo where there are houses on either side of the river. A few salmon—or rather kelts—are washed up on these rocks, but in the spring and summer the gulls rarely trouble with such fare, there being an abundance of other foods, and I have seen the same kelt remain untouched for days till the next spate bore it off. Not so in winter.

But how shy a customer is the black-back away up in the glens! Not long ago a shepherd drew my attention to two of them near to his holding, and asked me to shoot them. Never in my life did I make a more cautious or well-favoured stalk, but

it was hopeless to get anywhere near those quick-sighted thieves. On another occasion I was returning from deer stalking when we saw two great black-backs quartering the burn below, and I said to the stalker : “ We ought to be able to get a shot at those fellows ! ”

At this he laughed, and remarked in effect that if we could stalk great black-backs (inland, of course) we should have attained about the highest level possible in the art of stalking. Yet it would be easy any day to shoot both the birds above the Killin bridge if prudence favoured it, and the same thing is noticeable with other shy birds. The heron to be seen each evening under the Perth bridge, heedless of the citizens and the ceaseless flow of traffic, is “ Quask the keen-eyed ” when we meet him in the glens—up and away far out of gunshot, no matter how cautiously one approach. Not that any reasonably minded person would wish to shoot a heron.

It is chiefly on account of their destructiveness to shepherding that the great black-back is so genuinely hated. Early in the spring a shepherd in the Dochart Valley heard and saw these gulls at work on the mountain side above his bothie, and judged from their behaviour that they were into mischief of some kind. It was very early in the

morning, and hurrying off with his dog he made the best of his way up the steep slope, but he was too late. The great gulls had completely disembowelled two newly born lambs, despite the mother's defence, and on the shepherd's arrival they flew off to a safe perch, where they waited insolently for his departure. He did depart, but not before he had lifted the lambs to a high point which no dog could reach, and doped the mutilated remains with strychnine, kept handy for just such an occasion.

But the gulls evidently realised that foul play was afoot, for they left the meat untouched. A little later one of the keepers, watching them as a result of complaints, noticed that one of them was in the habit of alighting on a dead tree stump at the river side, which served as a landmark for many birds. He therefore set a trap there, and assuredly he caught a great black-back, though the bird was ripped to bits by other gulls and the jackdaws when he got there.

Undoubtedly it was one of our resident gulls, yet three days later two gulls alighted as usual on the rocks above the village. No doubt the survivor had, in the interval, toured off and found another mate—a common habit among birds of prey.

About the lochs the great black-backs are very des-

tructive to the wild ducks. They will sit on the surface waiting till they see a mother duck lead her brood forth from the rushes, then wheeling and swooping they will pick up the ducklings one by one, dropping each in turn to the water in order to kill it, whereafter it is swallowed whole. Also they will tear to bits and devour any weaker bird they can catch.

One has no quarrel whatever with the black-headed gulls, which are graceful birds and purely scavengers, but the great black-backs, on land or sea, are truly, as Mr. Seton Gordon once designated them, the Bolsheviks of the bird world.

JINGO

SOME time ago a keeper in the Lammermoors presented me with a badger cub he had caught in a vermin trap. The injury to the little animal's hind leg appeared superficial, and the veterinary surgeon was of the opinion that it would soon heal. I had some doubt about this, however, not only because a wound from a trap so often turns septic, but because the little animal was too young to apply Nature's best cleansing remedy—treatment by his own tongue. Had I thought of it, the best course would have been to smear the wound with honey, which would have encouraged him to take the desired course.

So nearly as I could judge, the cub was about six weeks old—a round, plump little beast, with very winning ways. He weighed 3 lbs. 14 ozs., and though when first we got him he growled in a most terrible and fear-inspiring manner, he never made

any attempt to bite me or anyone else. I have possessed numbers of badger cubs of all ages, and have yet to find the one which possesses the least idea of biting a human being. Indeed, I have taken more liberties than most people with adult badgers, but I have never known one of these quiet beasts to show the least signs of aggression until unduly aggressed. All that the badger asks of mankind is to be left to live his inoffensive life in peace.

Little Jingo was really too young to be separated from his mother, and resultantly some difficulty was at first experienced in feeding him. Eventually I shot a young rabbit, and cutting the liver into shreds I started him off in taking morsels from the fingers. Having learnt the trick, the feeding difficulty was removed, for he would readily take scraps of bread soaked in milk.* He seemed always, however, to experience much difficulty in picking up anything from the ground, his lower jaw being so much in arrear of the tip of his nose. Thus, in order to pick up a small article he had to place his head at an acute angle from the ground.

A little and often is the secret with all young animals, and the rabbit's liver trick often proves

* The Marchioness of Tweeddale, who has successfully reared badger cubs, informs me that the best food for them is new milk with an egg beaten up in it.—H.M.B.

very effective when feeding difficulties arise. There are few carnivorous birds and beasts that can resist such a dainty, which, providing it is a really young rabbit, does not throw much tax upon their digestive organs.

Meanwhile the injured leg appeared to be progressing favourably, and Jingo was certainly growing well. He spent much of his time in the study, as a puppy might, and his droll little antics and cubbish ways much endeared him to the hearts of the household. In many respects he was much like a little bear, though slower of thought and of movement. He loved to rummage about in odd corners and to get behind the coal-box, and between intervals he would sit down and remain motionless for a minute or so, as though wrapped in the deepest thought. When I was writing he would spend long, fruitless spells trying to scramble on to my knee. To him being nursed was the chief joy of life, and I think this had a great deal to do with his fondness for motoring. When in the car he would curl up on my knee and sleep without movement, and I have no doubt that in his brief life he covered as many earthly miles as his wild, free kindred who are spared to live.

At first he was a strangely stoical and silent little fellow, but as the days passed he seemed to become

more restless, and we heard more often his peculiar whining cry, which exactly resembled the sound made by rubbing one's fingers on a wet pane of glass. Moreover, that damaged leg of his was not healing as we had hoped. Certainly it seemed to cause him no great discomfort, but the main fact remained—it just did not get well.

So I fear we are drawing near the close of this brief record. We visited our vet. again—one of the best vet.'s in the country—and again he announced that the injury would not cause Jingo's death. Bread poultices were applied nightly, and usually Jingo ate them within a few minutes of their application. Night and morning the wound was carefully dressed, but each day found the cub, of whom we had now become very fond, a little more unsteady on his legs, and a little more plaintive. Indeed, he now cried constantly except when he was being nursed.

Perhaps his own wild mother might have saved him, but I began to realise now that that was to be beyond our power. One morning when I took him from his box he seemed very cold and limp, so I wrapped him in flannel, and all that morning he lay in the wood oven. Warmth, an abundance of warmth, is in my experience the only thing to keep a young animal alive when it begins to droop,

and by mid-day Jingo seemed much improved, and again the shredded rabbit liver was accepted. By evening, however, his thin, plaintive cry, now perceptibly weaker, was unceasing, and that night our hearts were heavy.

It is strange how attached one can become to a little wild animal, especially when one has striven hard against the heaviest odds to keep it alive. Again and again I have sat up late and risen early in the hope of saving some infant of the Wild whom the Fates have thrust upon my care, but with all his knowledge, man is but a feeble substitute for the wild woodland mother. When a little animal begins to droop it seems, indeed, that there is only one thing man can do for it—to place it away in a quiet, comfortable place, and leave it there for the greatest of all Foster Parents to take into her charge.

That, at any rate, has been my experience with little *wild* beasts, and I have had many. The slightest indisposition, and for all one's care and patience, they simply fade out of life. One does not know, perhaps, why they die, or what is the cause of their ailing; and whereas a beast which has long associations with mankind can often be encouraged to put up a fight, a wild beast makes no fight at all when the shadows begin to close.

Of all my wild pets, the badgers have won a higher place in our affections than any others we have had. They are such staunch, quiet little creatures, and a badger will look you straight in the eyes without fear or distrust, and as does no other wild beast I know. Yet why? No animal has so long a bill of bitter memories, no animal has been more ignorantly maligned, and even to-day, when it is the sincere wish of most of us to obtain a fair deal for those who cannot strike their own bargains, the badger stands as ever before—the most misunderstood and maltreated of all our unoffending wild folk.

FEATHERED OPTIMISTS

THE house sparrow is commonly regarded as the most plentiful wild bird in Great Britain, but if it were possible to take a census of our bird life, it is possible that the starling would be found to exceed in numbers any other species of this island. Sparrows exist in great numbers about our towns and cities, while rickyards and gardens generally swarm with them, but not only are starlings numerous everywhere that sparrows prosper, but they are found in great numbers throughout moorland districts, fens, and everywhere along the sea shore where sparrows are not. They nest in millions in the sea crags, and high among the boulders of our loftiest mountains. Indeed it would be hard to go anywhere in the British Isles, from the topmost Highland barren to the most secluded fen, where these birds are not comparatively plentiful. And the reason for their abundance

is that they are the most industrious and the most adaptable of all our feathered kindred.*

Very early in the spring starlings begin to investigate the hollow trees and the roofs and walls of ancient buildings for suitable nesting quarters. A good many of them meet with accidents of one kind and another during these explorations. Two of them and one sparrow met their fate by drowning in the water cistern at the top of my house last spring, though how they got through the roof and into the cistern room was a mystery. Another fell down the chimney into a room we never used, where the poor creature must have lived for days, struggling to escape. When eventually someone went into the room it was found lying dead in the centre of the floor, having rendered the windows and the mirror almost opaque by fluttering against them. Very large numbers of starlings fall down chimneys early in the nesting season, sometimes to find the chimney closed at the bottom, and on opening a chimney door which has been closed for some time, it is not uncommon to find the remains of one or more of these birds mingled with the soot.

* Less than fifty years ago a stuffed starling was shown in a taxidermist's shop in Perth, and attracted much attention, being an unknown bird. As a successful species, the starling in the bird world closely rivals the odious house rat in the animal world. In about the 15th century the first alien house rats began to oust the native black rat.

The young birds are very noisy while in the nest, both they and their parents advertising its whereabouts, with the result that farm cats often locate and destroy them. As soon as the young birds are fairly on the wing, say July, the gathering of the clans begins, the birds forming into packs, at first young and old together, though later in the year, a great shuffling takes place, the strong flying birds leaving behind those who cannot wheel and manœuvre with them. These stragglers form packs of their own, and thus it will be found that the flocks of starlings differ considerably. No regiment of soldiers could rival the best packs for similarity of movement. When the leader crouches they all crouch, when he rises they all rise, and banking and wheeling in exact unison, they are away with a whirr of wings. Always when at their feeding grounds one starling watches from an adjoining tree top or the roof of a building near, and this sentry gives the warning to the birds below should danger approach.

Starlings are the first birds astir at daybreak, and always the last to retire. A number of them have recently taken to roosting in some silver birch trees in view of my bedroom window. At first there were only about half a dozen of them in the pack, but now it is fifty or sixty strong, and seems larger

every night. Often I have been in bed some time, and it is close upon midnight, when I hear them descending to roost, but I think that on these occasions when they are so late in retiring, they have been tempted to remain on the sea shore owing to low tide. When it is full tide at sundown they usually assemble to roost just after dusk, but if it is a windy night they can be heard throughout the hours of darkness shrieking and at intervals rising unanimously, immediately to settle again.

Idle and moody people might take many a cheerful hint from these birds. They are seldom inactive, they are never dull. One cheerless day last winter I was walking down the Dochart Valley and thinking how deserted and cold the country looked. The very song of the river among its moss-covered boulders seemed sadder than usual, while the drip-drip-drip from the alders and the hush of the driving mist against the pines were sounds that were full of melancholy. It was one of those days when even Nature seems to be sad—when the white mountain hares hide themselves under the peat lips, and when those who have holes in which to hide take good care not to leave them.

But suddenly there was a sound of wild merri-ment as a whole band of starlings settled upon a dead ash tree at the river side. The tree itself

was a veritable skeleton—a travesty of the living, a death's-head among trees, for it was twisted and leafless, and covered with fungus and lichen. But there the starlings alighted, warbling and shrieking, till the branches were black with them, and every time the mist-laden wind smote the tree and tried to dislodge them, they burst into fresh song, seeming to enjoy the wild buffets of the gale. It was as though the old, old tree were suddenly hung with bells which, like the harp of Æolus, gave forth music as the wind smote them. Strangely discordant music it was, yet in its wild cheerfulness there was a melody which made one glad to hear.

THE SCHOOLS OF THE WILD

(THE CHILDREN'S CHAPTER)

PROBABLY few people realise that the wild creatures of our fields and woods have to learn in their cubhood days, lesson by lesson, the things on which their success in life depends. They have their schooldays, just like ourselves, but there is this great difference. Sometimes dull boys and girls grow up to become great and famous ; clever and dull alike have much the same chances, and it is not always those who are cleverest at school who come out on top in the struggle of after life. In the Wild it is different. There is no place in the woods for the dull-witted and the foolish. Their mother may shield and guard them while they are small, but very soon they pass out of her life and her ken and become dependent upon themselves. It is then that the young animal which has not made the best of its opportunities when its mother was there to teach and guide, falls upon hard

times. Everywhere it goes it is face to face with its enemies, its wits to their wits, while many wild creatures are solely dependent upon their cunning for their food. Of the foolish and dull-witted, therefore, very few live through the first winter that finds them alone in the world, and when the next joyous spring dawns, with its laughing brooks and its flowers, only the wise leave their tracks upon the sandy margin. Thus only the wise live to love and to marry and to have children of their own, and so by ages of weeding out, only the fittest have lived to have children, to whom they have handed their wisdom.

Let me tell you the story of the otter family which last spring had their nursery den among the loose rocks at the bend of the river near to my home. Negeet, the mother, had herself been born in the den where her own little ones were born, and growing up she remained at the place of her cubhood days, though all her brothers and sisters wandered off to seek their fortunes in distant parts—perhaps along the sea coast, many, many days' journey. Thus when autumn came, Negeet found herself alone in a great lonely world, where the woods were now filled with the rustle of falling leaves, and where the trees rocked and shook in mimic battle with the autumn gale. But I

fancy Negeet was not afraid, for she had one great friend, more faithful far than friends who move to distant lands—the river! It was from the river that she took her food—the lightning-darting trout, and the mighty salmon, now up from the sea, and when she was in danger the river was always there to shelter her.

The days were short now, and the nights long, and very soon snow fell, followed by cruel frost that sealed the tiny springs and covered all the rocks with caps and teeth of ice. Day after day the frost continued, but because Negeet had learnt her lessons well she lived when many would have perished. Hunger fell upon her, and often I saw her dragging herself about the ice, looking hungrily at the game birds that came down to the river margin to feed on the bone-dry catkins of the alders. She could not catch them, of course, but the snow told me that at night time Negeet made long journeys into the wood, where, forcing her way under the snow roof that covered the bracken, she hunted for mice among the roots, and in this way kept herself alive. Also there was a pond above the wood, frozen over save for one corner where a stream flowed into it, and visiting this place one night Negeet saw many wild duck swimming about the open patch in search of food. So Negeet

slid like a snake into the rushes, dived silently, and rising beneath a wild duck as the bird floated on the surface, she caught it, and enjoyed an excellent meal. And another night she visited the village, and made a meal of some beef bones that had been thrown out for the dogs behind the hotel.

Thus Negeet, the angler, lived by ways other than angling till the cruel Frost King was banished, and the trout moved forth again from their rocky hidings, and the kelts* lay thick in the deeper pools. A little while later Negeet's husband, journeying inland from the sea, met Negeet, and so they became mated for life.

It was early summer when Negeet's kits were born, blind and helpless little creatures, and so they remained for many weeks, till one night Negeet led them out into the starlight. Their eyes were open now, and they could run about quite rapidly, but they did not take naturally to the water as ducklings do. Indeed they liked it at first no more than so many kittens, and Negeet, placing one of the tiny mites on her shoulders, would swim out with it into the stream, where she would dive, and the kit, left on the surface, found that there was nothing for it but to swim ashore. After one or two such christenings they began really to

* Salmon returning to the sea.

like the water, and would swim about after their parents, trying always to climb on father's or mother's back, but never quite succeeding—father and mother took good care of that. But though now able to swim quite well, nothing would induce them to dive below the surface, till one night their parents led them to a place below the pool, where the water was still and shallow, and where innumerable “Miller's Thumbs” or “Bullheads” dwelt among the gravel. Here the young otters soon learnt the joy of hunting for their food—learnt that a delicious feast awaited the kit who was bold enough to thrust his head below the surface and nose about among the pebbles. From that it was but one step to diving proper, and a little while later their parents took them to deep, still water, where the river was sandy bedded, and where numerous eels—the otter's choicest food—lay buried in the sand; and here the little ones learnt to dive properly and to thrust their heads deep into the sand of the river bed on scenting an eel.

So, by gentle stages, the little otters learnt their lessons—all of them but one, who spent his time teasing and robbing the other kits, and seemed not to mind in the least when his mother chastised him for it. He would idle about the surface, waiting

for a brother or a sister to rise with a fish between its jaws, whereupon he would swim up, and ere the diligent one had time to gain its breath, the idle cub would grab the fish and swallow it.

Ere many days were past the young otters could swim almost as well as their parents, and how they seemed to revel in their mastery of the mighty river, all the giant forces of which were now at their bidding ! They would swim out into the centre of the stream, then idly, limply, they would allow the current to carry them—down, down, over the edge of the fall, into the still, dark pool below, where the horse-froth swirled in fairy pathways under the stars. Often they hunted the trout hither and thither, driving them to each other as wolves hunt deer. They could swim back downwards or in any way they chose, for they swam like no other creature on earth, save the leech—that is they used their whole bodies, not merely their feet, from the tips of their noses to the tips of their long, tapered tails.

But their training was not yet complete, for one night their mother led them to the pond above the wood. All the wildfowl were gone, but the pond was full of frogs which proved a delicious change, and when the otter family left the place an hour before daybreak, the pond margin was littered with

the skins of frogs they had devoured. Also their mother showed them how to hunt mice in the bracken, though they complained bitterly at having to leave their old friend the river, and be made to do these things which seemed so entirely useless. Thus the kits learnt, as their mother had learnt in her own kithood, that such places were good places to visit, and some day that knowledge might stand them in good stead, just as it had helped their mother to survive that memorable winter.

And once again, ere the lush tints of summer faded into the fuller, richer colours of autumn, I found otter tracks, the tracks of a whole family of otters, across the white dust of the highway near to the village inn, and I knew that Negeet had that night taught her children that food may be found when all else fails at the threshold of their deadliest enemy—man!

So autumn dawned and winter followed, and again the cruel ice teeth ran out from the bank across the still water below the pool. Negeet's children had been late in coming, and though they were now self-supporting, they did not leave the valley, and one day I found a dead otter lying at the river margin at the point where burn and river meet. I picked up the poor frozen body, thin and wasted with hunger, and I knew that I held in my

hands one of Negeet's cubs—the cub that would not learn !

So much for the school of the otter kits, where few lessons come pleasantly at first, and the little foxes on the hills have to learn in just the same way. Their training begins immediately they are old enough to gambol about the den mouth with the dawn light, for the very first thing they have to learn is that a certain note of warning from their mother means : “ Go back into the burrow this very instant ! ”

So, the very first day they are out, their mother utters the warning note, and hustles them all underground in the twinkling of an eye. Thus the wise cub understands at once what that particular note from his mother means, and thereafter he obeys it unquestioningly, but the foolish and headstrong cub says to himself : “ There wasn't anything to be afraid of. I shan't take any notice ! ”

To-morrow the mother utters the warning again, and all the little cubs whisk underground in the twinkling of an eye—all but the silly one, who calmly sits down to wait and see what will happen. And assuredly he *does* see what happens, for his mother falls upon him, fang and claw, rolls him over and nips him, and thereafter he is as promptly obedient as the rest. So, when a few days later, the shepherd

and his dog appear across the moor, the first note of warning from the vixen sends all the little cubs scuttling underground long before the man sees them or his dog scents them.

Later their mother brings food for them and hides it near the den, so that they have to find it for themselves. Thus they learn to use their little black noses—learn to hunt upwind, so that the scent is carried *to* them, instead of away from them, learn that the cub that hunts best fares best, while the idle cub goes hungry. Later still she teaches them to hunt mice in the grass, she shows them where the game birds roost, and where the wild ducks can be caught by waiting in the rushes—greatest of all she teaches them the scent of man, and shows them by example that whenever they encounter that scent they must steal right away, keeping to the heather and the hollows, for the scent of man is the scent of *death*. Thus the cubs grow up wise in the wisdom of the trails, able to hunt for themselves, and one method failing to try another, so that when hard times befall them they have many strings to their bow, and can live on through times of snow and ice and hunger.

One day I found a little mottled deer fawn lying in the heather where its mother had left it. I lifted the little creature up and let it suck my

fingers, and when I moved away it followed like a lamb at my heels, happy in having made a new friend. The pretty little thing was too young to have learnt the fear of man, and I had a good deal of difficulty in getting rid of it.

All the time the old hind was circling about in a great state of anxiety some distance away, and when finally I got rid of the fawn she immediately took charge of it. A day or two later I again found the little fellow crouching in the heather some distance from the place at which I had first found it. I went up to it, expecting it again to make friends, but—no! It was up in an instant and fleeing towards its mother in the utmost terror—why?

Need one ask? Its mother had taught it now to fear man! She had taught it that it must flee for its life whenever man crossed its path, for the scent of man was the scent of death.

This realisation struck me as very sad and pathetic. Here was the daintiest creature God has given us, a veritable little fairy of the Wild world, born with no fear of man, trusting him as it trusted its mother, yet the very first lesson it had to learn, the greatest and foremost lesson of its life, was to fear man, the deadliest of its foes! And indeed it cannot be otherwise. The wild creatures can never regard us as their friends.

They have learnt by sad and bitter experience the meaning of the huntsman's horn and the deadly blast of shot and powder. Yet man is supposed to be the highest and noblest of all earth-born things !

Many things the wild creatures know by instinct, which is inherited knowledge, but by far the bulk of their knowledge is handed on to them by their parents. Their parents teach them how to hunt and how to hide when hunted, and if anyone doubts this, here is the proof. Take a little animal from its mother, feed it by hand, then turn it out to earn its own living. Generally it will starve or be killed within a week, for the very excellent reason that it has *never been to school* ! It has been deprived of its natural heritage—to learn from its parents, as *they* learnt from *their* parents, and now, dependent on its own resources, it immediately falls to its foes, or perishes miserably of hunger. A tame fox may kill a fowl because it is his natural instinct to do so, an instinct inherited through countless ages from his forefathers, just as you or I would run from the sight of a tiger even if we had never before seen or heard of such a thing, but that same fox, if given his freedom, might perish of hunger in the midst of a wood where pheasants were everywhere and rabbits abundant.

Thus, when our lessons in life seem irksome, and

we hate having to do the things which it is only right and proper we should do—when we envy the wild creatures their freedom, with all the wild woods and the fields at their bidding, we need to remember this—that they too have their school hours, when by many a harsh nip and many a rebuke from their elders, they are made to do things which seem to them useless when there are other more exciting things to be done. But sooner or later in their lives, as in ours, there comes a day when the lessons of their cubhood prove more precious than gold, and when, if the gift of looking back be theirs, they are very, very thankful that they did their mother's bidding, instead of chasing the fleet-winged nighthawks they could never catch, or tumbling head over heels in pursuit of the fluffy moths which were not worth eating when they were caught.

THE BASS ROCK IN JULY

THE Bass Rock is, of course, by far the largest breeding haunt of the gannet ; indeed, at one time it was thought to be the only one, hence the scientific name of the bird, *Bassana*. As one approaches from the mainland this mass of basaltic outcrop, hundreds of gannets are to be seen floating and soaring about it, and now and then one will be observed to dive headlong from a giddy altitude, flashing like a thing of silver as it falls. But one has no idea as to their numbers till the rock is actually gained. The last time I visited it was in late July, and perhaps the most remarkable spectacle of all is obtained by cruising round the island. In most parts the cliffs rise almost vertically from the sea, though there is generally shelf room enough for the birds to pursue their nesting affairs all the way up. Looking from below the cliff resembles a snow-white barrier, so densely are old birds and young crowded together, while here

and there a strange little band of guillemots cluster about a ledge. As the boat slowly encircles the island, each new aspect appears more startling than the last, while by now hundreds of gannets are circling overhead, their cries of "Karra-karra-karra" drowning the roar of the surf at the base of their fortress.

Landing on the island it is necessary to climb to the summit ere much can be seen of the birds, but having done so there are certain points known to the coastguards from which one can look down upon the snowy multitude. Every ledge and pinnacle which affords a possible foothold is occupied by a gannet, and as summer advances, some of the downy chicks have attained such dimensions that there is precious little landing room for their parents to alight beside them. It is possible in some places to reach down and touch the chicks, but one needs to be ready for any emergency arising therefrom, as both young birds and old seem able at any time to disgorge a surprising quantity of half digested fish. Meantime the cries of those awing, mingling with the roar of the surf from below, and the criss-cross flight of the glittering flotillas before one's eyes, produce a sense of dazed bewilderment.

By an ancient right the minister of North Berwick is privileged to take a certain number of chicks per

year, and they are said to be good eating, though one would imagine a young *bassana* to taste indescribably fishy and nasty. They are known locally as "parliamentary geese"—the adjective no doubt arising from their assembling and sitting for long periods, but popular fancy sticks to the name goose. Why the gannet should be called solan goose or any other kind of goose I do not know, for it is no more related to the geese than is the guillemot to the wild duck. The gannet would seem to fall, indeed, midway between the cormorant and the pelican, with a distinct bias towards the last named, but goose it always has been and such it bids fair to remain.

In many ways the gannet is a strange bird. It does not attain maturity till four years of age. Even as late as August there are a good many young birds in full down, while the nesting fever still appears to possess many of the adults, for they are to be seen carrying scraps of seaweed and other nesting materials in their beaks. During their second year the young are liberally speckled with black, and these dark markings slowly disappear till, in the fourth year, there remain only two black feathers in the tail to distinguish the immature birds from the adults. The adult plumage is really very fine in its snowy whiteness, shading to cream



THOUSANDS OF GANNETS ON THEIR NESTING LEDGES.

behind the head, while the wing tips of jet black and the delicate shades of the beak set off the general tone to good effect.

One curious fact concerning the gannet is that immediately the young bird launches itself from its native shelf it passes completely out of the care and recognition of its parents. No guidance of any kind is thereafter proffered it, and numbers of young birds meet their fates on the occasion of their first step into the world, dashing themselves against the rocks or against the sea below. The survivors, thereafter, are faced with the problem of fending for themselves, the finding of food, the fighting of storms and so on, in which most young sea birds are assisted by their parents, being left to their own powers of discovery. Consequently an enormous number of young birds perish during certain seasons, and for this reason the gannet is never likely to become too abundant. A few adverse seasons are, indeed, calculated to affect their numbers very considerably.

The island is the property of Sir Hew Dalrymple, Bart., a gentleman of sympathetic interest in all out-door subjects. It is necessary to obtain permission to visit it. Whereafter, tide and weather being favourable, a motor boat can be chartered at North Berwick for that purpose.

SANDY'S PARTRIDGE CHICKS

THERE is a story told in the Lowlands about a farmer who possessed a reputation for unusual meanness, and who was a long way from being above a shady dealing when the chance occurred. His farm was his own, and early one spring he arranged to let the shooting of it to an Edinburgh sportsman, incidentally at a figure far in excess of its worth. So Sandy, as we will call him, would not be allowed to shoot, unless as a guest, but all the same he wanted to make sure of at least one partridge pie. So when he found a nest containing twelve eggs in some nettles immediately behind the steading, he lifted the clutch and placed them under a broody hen. When the chicks began to fly it would be a simple matter to clip their wings, then fatten them up in the large wire netting run in which he kept his poultry.

So far so good. Everything worked smoothly,

the foster mother taking to the eggs with never a murmur of suspicion. Faithfully she fulfilled her duties, and in due course, much to Sandy's delight, ten of the twelve eggs chipped and hatched.

The broody coop stood on the grass plot opposite the house, and a day or two later, just as the chicks were beginning to run about and to take a lively interest in life, Sandy was disturbed at his table by the calling of a partridge, seemingly quite near the house. He looked out of the window, and to his surprise saw a wild partridge gathering the chicks about her. She already had the whole brood under command, while the impotent foster mother struggled in vain to escape from her prison, and ere Sandy could act, the partridge led the chicks into the long grass, and that was the last he ever saw of them.

So, indeed, may the best laid schemes o' mice and men gang aft agley.

WANDERERS OF THE WILDERNESS

AS regards their home range, wild animals may be divided into three classes : (1) Those who stick to one small locality, if conditions permit, throughout their lives ; (2) those whose home range is so great that their existence would appear to consist of one gigantic migration, which only death terminates, and (3) those which migrate with the seasons, performing, perhaps, great trans-continental journeys, but which observe a small home range apart from these journeys. The latter are confined to lands of greater distances than our own.

The great majority of wild animals, particularly in Great Britain, belong to class 1. Most birds and beasts limit themselves to a surprisingly small area, every yard of which is familiar to them, and when the fates are kindly they live their lives and die within sight of the same landmarks. Deer, foxes, badgers, hares, rabbits, and squirrels are all beasts of very limited home range, wandering no further

than is necessary for the provision of their limited requirements in life. Take, for example, the little woodland roe deer, which is essentially a stay-at-home animal. Two or three families of these picturesque creatures have occupied a certain wood in Dumfriesshire, which for some time has been under my close observation. Here they have certain beaten tracks which lead from one favourite place to another, and so routine are they in their habits that, having disturbed them at a certain place, one knows almost exactly what they will do—pass through a gap in the wall at the north-west corner, run along under the shadow of the wall, and cross the burn at a certain place, where their fathers and their grandfathers crossed before them. A few minutes later they will be found hiding in the dense spruce thicket at the south side of the wood.

Their home range is laid out with due consideration for wind and weather, one beaten pathway leading to the bracken slope, breeze-swept of flies, where they can lie and sun themselves, and there they will be seen—if you are lucky—any hot day at certain hours. As a matter of fact they are difficult to see, for the roe, running with head down, can pass through quite shallow cover when so it choose, without showing itself. They select their

beds between the thickest bracken clumps, and on being disturbed they quietly sneak away, and one finds only the empty bed, still warm from contact with the animal's body. Other pathways lead to the dense thickets, secure from wind and rain, and through which silent approach is impossible, others to the drinking places, and still others lead boldly out into the open, and are used only at night time. So they have their daytime runways and their night-time runways, their wet weather retreats and their fair weather retreats, and it is owing to the roe deer's perfect knowledge of its own home range that it is so well able to hold out against its enemies, and is to-day far and away the most abundant of our wild deer—albeit that it is the most persecuted and the least preserved. A roe will fool the sportsmen time after time by crouching in the same retreat and allowing men and dogs to walk over it ; and when pursued it will resort like a hare or a fox to the same well-tried tactics.

Thus it is that the wild beasts which wander least are usually best able to take care of themselves. The hare learns—by accident perhaps—that hounds cannot follow its scent through a certain swamp, so to this swamp it flees when hard pressed by its pursuers ; the fox discovers that when, with bleeding paws and lolling tongue he seeks a level foot-

hold of the railway metals, the hounds lose him, and so, thereafter, he makes for the permanent way, and time and again he may baffle his enemies. All these animals run in circles, and the circle is the circle of their home range ; so, when the day comes that the old, old tricks fail at last, truly may it be said that they die as they have lived—amidst their own beloved surroundings.

The creatures of the mountain tops, as for example the red deer and the blue hares, are more given to migration on a small scale than are their first cousins of the valleys. During spring, summer, and autumn they are truly Alpine in their environment, sticking faithfully to the highest levels, but I have known a winter of exceptional severity to drive the hares in thousands from the most exposed ranges to those of kindlier climate. At such times they stick to certain prescribed pathways, and though among the most solitary of all creatures at all other times, they have, preceding a great storm, or immediately succeeding one, been seen travelling in strings from range to range. Similarly the red deer of our Scottish reserves migrate in winter from the bleakest levels to the sheltered woodlands, which they then share with the roe, and even there they may be hard put to it to keep themselves alive.

Thus we arrive at migration in its earliest stage of development, and we find it still one step further developed in the wild sheep (Bighorn) of the Rocky Mountains. By nature they too are creatures of limited home range, like our own wild deer, but the day comes when the herd falls sick, and when a great desire for something, they know not what, comes upon them. But the wise old ewe, the leader of the herd, knows well, and she it is who takes the blazed trail across the hills, leading her followers to the sea shore or to some distant lick, which the wild sheep for ages past have frequented, and where the salt their bodies crave can be had for the taking.

Sheep are often held up as examples of supreme stupidity for the manner in which they follow each other, but we need to remember that among all animals that possess the migration instinct the law of "follow the leader" is one of the foremost laws of life. In domestic sheep it has ceased to play a useful part, but the instinct lives on. The leader of the herd knew where last year the panther lurked, or where, perhaps, some of her tribe perished by landslide, and so she avoids that place. Thus, by a process of weeding out the dangers one by one, the best way becomes the recognised way, and the leader is chosen by common consent—not because she is the oldest, but because long experience has made

her the wisest. Therefore we need to be generous when criticising the behaviour of animals amidst surroundings which are entirely foreign to their natures, for in their seeming folly may be the seed of a wisdom as high as the stars. For millions of ages death was the penalty for the sheep which broke formation, and by blindly following the leader, the herd was often able to crash through a danger which might have annihilated it had its members scattered. So strong, indeed, is this law among creatures that migrate, that a whole herd has been known to dash themselves over the crags in pursuit of a leader who fell at their head from the sportsman's rifle.

In class 2, comprising animals of such immense home range that their lives seem to consist of one immense migration, we have the weasels foremost. They are an exceptional class, and in their life habits we have an example of the migration instinct having run riot. The stoat and the weasel undoubtedly live nomadic lives, recognising neither range nor border. Their food is everywhere, such shelter as they require is on every hand, and they wander whither their murderous wills dictate. They are the exception which proves the rule. That the instinct to migrate is theirs is proved by the fact that the first wild winds of winter send them

scattering in all directions, crossing and re-crossing the highways, where regularly they are seen by the roadfarer, every weasel moving its quarters for better or for worse. The higher weasels, the polecat, and higher still, the pine marten, are now, of course very rare. The day has gone when in this country it was possible to study their habits closely. Probably they wander more than most other beasts—chiefly by reason of the fact that their extraordinary activity leads to their spoiling their own hunting on a limited home range.

Higher still, the otter stands out as the most intelligent of the weasels (excepting the badger) and he represents the group as a life-long wanderer. From pool to pool, from shallow to shallow he weaves his life-long pilgrimage, remaining a little where fishing is good, then on again. From the mouth of one river to its head-waters, over the height of land and down to the source of the next river he goes, following it to the sea, and so from the sea again to the innermost mountain recesses. There is an indescribable romance in all these things for those who know the Wild folk, and can follow them in imagination through the days of sunshine and through lush meadow lands and woodlands, to the lean, cold days of winter, which holds no less poetry, be it only the hush of the mist

wraiths against the dripping alders, or the twinkle of village lights across the hunger of the snows.

So we come at last to the true migrants, the caribou, drifting in their thousands across the wastes of the Labrador or the North-West Territory—an army of inconceivable vastness, voyaging across the snows, bearded and ice-covered, like creatures from another planet which have wandered thus since time began. I have seen their armies moving thus, blind to all perils, obsessed by the migration fever, and I know the awful pinch of the lands they leave behind. Nothing will turn them aside when once *la fièvre* is upon them; the Indians may kill scores, but the main body goes on. A city may spring up in the midst of their historic line of travel, and the migrating herds, more timid and cautious than deer at other seasons, have been known to parade down the avenues, staring wide-eyed at the clanging street cars.

Thus, northward each spring, into the heart of the barren lands, the lands of eternal summer glare and of winter darkness, the lands where the aurora rustling in the sky is the only sound that breaks the deathlike stillness—northwards each spring and southwards each autumn the caribou armies go, and how wonderfully nature has adapted them for these great journeys! Each hair of their

coats is a hollow quill, and thus equipped they are able to swim the great lakes which so often bar their way. Their huge, spreading hoofs are their snowshoes, by which they can skim the swamps and drifts where any but themselves sink and become exhausted, while as the animal treads, the hoof clicks loudly—a sound which helps to keep the herds together during darkness and blizzard, just as the twittering of small birds, heard in the heavens during autumn nights, helps to keep the migrating flocks together.

As the caribou travel to-day, so yesterday the buffalo millions trod the prairies, northwards and southwards with the seasons, and by a process of weeding out and amendment through untold ages, the buffalo highways became the best highways, to be followed by the Red River Cart and the train of the voyager. And to-day our great Trans-continental Railways, with their Pullman cars and observation saloons, thunder through the passes which were once trodden black by the multitudinous cloven hoofs of the migrating buffalo.

So from the caribou and the buffalo, from the giant brown bears of Alaska which follow the salmon hundreds of miles inland from the sea, from the great antlered bull moose which throng in herds to the mountain tops with the coming of winter,

and thither in their train decoy the wolves that the mothers and young of their race may dwell in safety in the valleys, even to the wolves themselves, following at the heels of the caribou herds as once they followed the buffalo millions, we come down to the tiny lemming among our animal migrants, for they have been known to migrate in such teeming millions as to render a city uninhabitable by the stranded dead they left behind.

Of our migrating birds we know that many perish by storm and tempest and by beating themselves against the lighthouse screens, and among the migrating beasts similar tragedies occur. The melting snows of spring often revealed whole herds of buffalo standing in the hollows, every beast facing the merciless North-West whence came the storm that froze and buried them, while old records prove to us that islands exist on the Mississippi to-day that were originally built up by the countless stranded buffalo hulks which crashed through the rotten ice of early spring. The last buffalo skull has faded into the grey level of the prairie, the tomahawk is buried, and buried too are many great tribes which once followed the buffalo, but the buffalo trail remains—a pulsing highway through a mighty barrier which lies between the East and the West.

INDIVIDUALITY IN BIRDS AND ANIMALS

ONLY one thing is invariable in the habits of birds and beasts, and that their variability.

What may be absolutely true of one over the fields of observation of one naturalist, may be totally untrue of the species in a district where another observer has studied it.

This state of affairs is naturally a fruitful source of antagonistic discussion, for, quite apart from a bird's or an animal's surroundings influencing its ways, the individuals vary enormously. One acquires some criminal habit which may be quite strange to its race—though the race, nevertheless, is usually made to suffer.

As an example of this one need only quote the buzzard, which has been ruthlessly persecuted for a number of years on the strength of the sins of occasional members of the species, and even then, possibly, the evidence was scanty.

But "game preservation" of this kind is, I think, departing with the old school, although there is no doubt that a large number of game-keepers are still blind to the fact that what may be true of one is not necessarily true of all.

Drawing from my own experiences of the individual tastes and acquired habits of birds and animals, we will take as a further example the hedgehog. Any hedgehog is likely to be destructive to the eggs of ground breeding birds, but everything would seem to depend upon the individual and upon the locality. Some years ago I spent a spring on a game preserve in Dorsetshire. There were many hedgehogs there, but owing, I take it, to the deep and lush undergrowth in which insects of all kinds swarmed, the keepers had no quarrel whatever with the animals, and I have seen a whole family of hedgehogs nosing about the keeper's garden borders within a few feet of his front door.

Then take the hedgehogs of the barren hill country, where the soil is shallow, the timber small, and undergrowth scarce. In one such valley in the Lammermoors the hedgehogs are an absolute terror, and they are even known to catch game birds dusting themselves in their sand baths, a thing quite unheard of in my Dorsetshire days. On these unsheltered slopes the hedgehogs live

mainly on rabbits, retiring to the burrows during the daylight hours, and it is not uncommon to see an Urchin walking about with the major portion of a rabbit's nest sticking to his quills. Naturally these animals are egg thieves of the worst kind when they get a chance, and they are never spared by the gamekeepers.

Individual rabbits have been known to take to snail hunting, just as individual squirrels become confirmed nest thieves. In the gardens of a mansion house in the south of Scotland the squirrels one year became so destructive to the song birds that it was decided to shoot them down. Ere this decision was carried into effect, however, a squirrel was caught red-handed devouring a nestling, and it was shot on the spot, whereupon the killing ceased. This individual squirrel was, then, the only sinner, but observe that the whole race had been condemned for the crime of which he was guilty !

Fox and badger lamb killers are, of course, the products of circumstance, and though in a lean country any fox may become lamb killer, not every fox does. The badger who takes to killing of this kind is a "*rara avis*," but nevertheless he has been known to exist, which proves again the strength of individuality.

Among birds of prey we find a very great varia-

tion, and not long ago this point was raised in connection with the peregrine. The kestrel is usually written off as practically harmless to game stock and of great value to agriculture, yet I have known individual kestrels which have become most destructive. The peregrine varies even more, in evidence of which one prominent ornithologist in all his experience has never found grouse remains in a falcon's eyrie, while another has apparently found nothing else. Here is a case analogous to the first quoted.

Of two peregrines I had under observation one season, the hen bird did not apparently approve of grouse at all for food, for though she was known to strike down several of them, she did not take a single grouse to her eyrie. Invariably she left them untouched just where they had fallen, and another peculiarity of this particular falcon was that she killed only hen birds. Two other peregrines I had under observation were known to kill only puffins and rock doves, though other birds of all kinds thronged the shelves about them.

Once during an extreme cold snap I knew a merlin to kill a mountain hare, and I have observed a raven visit the same pool regularly in search of fresh water mussels, the whereabouts of which he had probably discovered by accident, and thus had acquired a

taste for them. Yet who would destroy the merlin as a killer of mountain hares, or the raven as harmful to our "fresh water fisheries" ?

These few examples serve to show how much individuality there is in the Wild folk of our woods and hills, while the abundance or otherwise of certain foods largely persuades their habits. Following the line of least resistance, a creature which is quite a harmless feeder in a land rich in small life of every kind, may prove the opposite in a leaner country or during an exceptional season, for it is then forced to find its living by whatever means it can. It is often difficult for the keeper to take all this into account, and though he is justified in enforcing his own laws in the immediate vicinity of his rearing pens, he will, if he be a thoughtful man, stick to the rule of always aiming at weeding out the individual sinner rather than of persecuting the whole species on the strength of isolated evidence.

CAMERA-SHY ANIMALS

CERTAIN animals are characteristically unsuspicious of the camera, while others seem to possess an instinctive dread of facing it. I remember mentioning this to Mr. Radcliffe Dugmore, whose wild animal photographs and cinema films have delighted so many, and the manner in which he took the point up rather surprised me. "Yes," he said, "there are many wild beasts which notoriously will not enter the field of a camera, no matter how one hide it."

This indeed has been my experience, and among the wild beasts of this country the one which I have found most difficult to photograph is the roe-deer. In the Galloway Highlands I spent weeks trying to obtain pictures of these little creatures, but practically without success. The method of procedure was first to find the runway by which the roe left the wood and came out into the full light. Usually

there was not much difficulty in this, for the roe-deer are creatures of routine habits, and they have their beaten paths to which they stick day after day. Next the camouflaged box which ultimately was to contain the camera was hidden *in situ*, and there it was left for several days till one saw that the deer were passing it without suspicion. The final stage was to place the camera in the box and to stretch an invisible cotton across the runway. Even the cotton was camouflaged, and running in and out of the bracken it was no more visible than a strand of gossamer. By breaking this cotton, or by running into it, the roe would automatically have taken their own photographs.

But from that day on no roe would pass the place. Everything was left just as it was when yesterday they came and went without suspicion. The cotton could not be seen, the lens of the camera was in a dark nook, and there was no more human scent than on a score of previous occasions when the animals passed without suspicion. I have even seen the little herd with which I had become acquainted leave the wood by their usual track, then on nearing the cotton they would absent-mindedly turn back and pass the camera by a slight *détour*. There was no alarm; it simply seemed that that still, small voice uttered a silent warning,



A WATER-VOLE EATING A SLICE OF TURNIP.



A WEASEL DRAGGING A DEAD SPARROW.

and on the one occasion when a roe did actually cross the camera, a slight fall of snow had sprung the shutter a few minutes previously !

The red deer, whimsical and wary though he be, is a fool compared with the roe. He does not, at any rate, possess to the same extent that sixth sense by which he can locate possible danger without the aid of his ears or eyes or nostrils. And keen though the latter may be, he is not very difficult to photograph when one comes to know his coming and his going. Wind direction must be borne in mind, but with a stiff breeze blowing from the deer to the camera, they will generally walk boldly across the field, and never even notice the click of the shutter.

Most of our small beasts are difficult to photograph on account of their nocturnal and cover-loving habits—how difficult no one can form the least idea save the man who has spent hours in obtaining a single negative, and then considered himself lucky. One must first learn their habits and learn them exactly, whereafter the camera is set and the subject left to photograph itself. In nine cases out of ten when the plate is developed, only the tip of the creature's nose or the tip of its tail is visible, and so numerous plates go west ere anything approaching a series is obtained.

This, coupled with uncertain light and the necessity for exceedingly high shutter speeds, tends to make results most discouraging.

Unless one is exceedingly careful, there comes a point when the intended subject decides that things are not just as they should be, whereupon one may as well pack up and try another place. The common weasel is a shy little beast, but he has no special objections to the camera. The difficulty with him is that if at all suspicious he moves like greased lightning, and an exposure of $1/700$ th of a second is the lowest speed at which it is even fairly safe to work. Even at that speed one trusts to catching him in a fairly motionless attitude; if he is really moving, $1/1,000$ th of a second is too slow. I have had a wild stoat move half way across the plate during the $1/500$ th part of a second exposure appearing as an elongated blur, yet I considered this speed as safe for the stoat as $1/700$ th is for the weasel.

The stoat is distinctly camera shy. If once he hears the click of the shutter, nothing will induce him to return to that place, and if he has the least inkling of the camera's presence, only keen hunger will induce him to venture before the lens. The weasel, on the other hand, will come back even though he has been scared by the shutter, but he is

so flattened out on such occasions that the picture is probably worthless.

The otter is cunning in the extreme, but usually one is content to take him across the width of the river, using a long focus lens; but one must first find the place he frequents in broad daylight. For such subjects I have used a quarter-plate camera having a "Teleros" lens of 11 inch focus, the small camera being much easier to hide than, say, a half-plate. A Reflex is invariably used for stalking purposes, and most of the pictures accompanying this book were taken with a quarter-plate Ensign Reflex, using a "Teleros" lens.

Squirrels do not care a hang for the camera, and having chattered their abuse at it, they will quite readily sit on top of the shutter to crack their nuts. If all beasts were as easy to photograph as the squirrel (once you have found his beat, of course) there would be no dearth of animal photographs. The water vole is much the same, but the brown rat is always suspicious of a trap, as, indeed, he has need to be. At all events, one does not often wish to photograph brown rats.

Both the brown hare and the mountain hare are extremely camera shy, and will forsake the runway they have used for weeks on the appearance of any strange object near to it. In this way they

are far more cunning than red deer, and the mountain hare in his natural surroundings is as difficult to photograph as the roe. For, added to his characteristic whimsicalities, the climate at the altitudes at which these beasts live is not ideal. Wisps of vanishing mist sweep the hillside, and sudden squalls of rain are apt to upset one's calculations even on the brightest days.

On the whole, I have found wild birds far easier to photograph than wild animals, especially during the nesting season, for very few of them possess that highly developed sixth sense which is so often a source of bewilderment where the fur clad beasts are concerned. And it may be taken that the wild beasts of this country, which are so well acquainted with man's devilish devices, form about the most difficult subjects in the world. One must in the first place know the individual and know his daily routine. This alone requires hours of waiting, and thereafter comes the placing of the camera, and if, out of twenty exposures, the photographer obtains two of which he is proud and which are worth publishing, he has done well.

THE QUARRY

SOMEWHERE in East Lothian, not far from the historical town of Haddington, there is a long-abandoned quarry, which must in its days have seen generation after generation of quarrymen at work. It covers a space of several acres—waste land, now claimed by vast beds of nettles, briar, rowan and hawthorn. Sheltered from the four winds by its cliffs and ridges, it gets all the sun available, and is, moreover, well watered, for the adjoining burn has filled the low-lying hollows, which form, as it were, a deep moat round the quarry.

Wild Nature is ever ready to take over what man abandons, and to heal the scars of his work with a tapestry of flowers, and now that several decades have elapsed since last the sounds of pick and shovel rang in this out-of-the-way corner, no one would ever guess that the burrowing habits of man were responsible for the little Eden. The last of the

man-made planks and bridges has long since moulded into the earth under a growth of ferns. The scars of the pick are washed from the soft red stone, and hundreds of sand martins have their nesting burrows in the sandy strata between the bed-rock from which human dwellings were once hewn. Walking there, indeed, one might think that no human foot had trespassed within its quietude since time began—a place where the wild folk hold dominion, and where the old, old earth is still young.

In the spring of the year the quarry is more than usually attractive on account of the blossoms which weigh down the trees like snow. Here, in this place, into which the sun seems to concentrate its rays as through a burning glass, the air is veritably heavy with the scent of the hawthorn and the rowan. Looking across from the low cliffs one beholds an undulating sea of blossom against a background of feathery pines, while away to the south rise the blue slopes of the Lammermoor Hills. Truly this is a land of wide horizons, with its wolds and its forests, and to the northwest now the skyline is broken by yet another range, in the heart of which lies the grey City of the Crag.

The quarry is rich in small bird life, many rare visitors finding secure nesting sites in its numerous

thickets, while the crumbling kiln in one corner is a bird stronghold. A number of wild pigeons and starlings nest there annually, and this year a wag-tail and a wheatear are rearing their young in the crannies, while in the disordered cairn below a family of stoats was reared. At the present time (late June) these little cut-throats are almost daily to be seen, generally chasing each other as though with murderous intentions.

In one of the most remote corners of the quarry, badgers occasionally harbour, though I do not think they are resident there. Very early in the spring a badger cleaned out one of the largest burrows one night, shifting fully a cart load of earth, and I hoped she was going to take up residence, but I have since seen only occasional signs of passing members of her race. Still, it is reasonable to think that if Brock continues to increase, in spite of spade and trap, such corners will quickly become occupied.

There are numbers of eels in the "moat," along with other coarse fish, which must have been introduced, and it is therefore not surprising that an otter regularly frequents the place. Otters are creatures of individuality, and the "mud pie" habit is peculiar to certain individuals. Early in the spring I found samples of these "mud pies"

on almost every sandy patch by the burn, and latterly I found the same indications about the quarry, the otter evidently going there in pursuit of eels. The "pies" are very similar to those a child would make in the sands, and here the otter leaves the sign of its passing—a habit which has a peculiar counterpart in the advertisement system of the beaver.

In winter I have seen the tracks of a fox in the quarry, but here the pheasant is sacred, and therefore Reynard walks beneath the Curse of Cain.

East Lothian is full of such secluded nooks, for which it is all the richer in its variety of bird life. Our wild beasts are few, and upon those we have, the iron-shod heel of the keeper is relentlessly set.

THE STOAT IN THE BOTHIE

NOT long ago I caught a stoat—nearly full grown—in a trap, and as it was alive and uninjured I decided to transfer it from the trap, which I was desirous of resetting, to a sack, in which it could be conveyed home. “Wee Wullie,” the kennel boy, was commissioned to lend a hand, and knowing that stoats are rather tricky creatures to handle, we went into the bothie alongside the keeper’s house, taking the trapped animal with us. Entering the harness room we carefully closed the door and made sure that there was no nook by which the animal might escape—precautions which at the time seemed superfluous, as, of course, it would be a simple matter to transfer the little creature safely to the bag!

Instructing Wullie to hold the sack by the neck, I placed the trap inside it, telling the boy to keep as tight a grip round the neck of the bag as he could, so that the stoat could not possibly squeeze out

between his hands. He followed my instructions quite ably, and the spring of the trap was duly depressed, whereupon by all the laws of gravity and common-sense the stoat had nothing to do but to fall into the bottom of the bag, when the trap would have been withdrawn and the neck of his prison tied up.

Things, however, did not pan out just as they might have done, for the self same second as the stoat was free, a shout from Wullie announced that it was on the point of escape. He had left one loop-hole scarcely large enough for a mouse to scrape through, but anyone who has seen a stoat scamper across the road and hit the nearest drain mouth with unerring accuracy, no matter how obscure it be, knows that the animals possess an uncanny sense as to the whereabouts of anything in the way of a hole.

Giving the bag a tremendous shake we jolted the stoat to the bottom of it, also we lost the trap inside the bag. That, of course, was no use. The only reason why we were going to this trouble was so that we could reset the trap (a specially made box-trap). Thus, at imminent peril of being almost eaten alive, I made a dive for the trap, but in the twinkling of an eye the head of the stoat appeared from the mouth of the bag.

“Put your thumb on him!” I shouted to Wullie.

“Get hold of him, sor!” Wullie shouted to me. But neither of us did anything of the kind, and meanwhile the stoat literally shot forth from his intended prison, and straight into poor Wullie’s face, who announced that fact by a terrific spluttering and roars of laughter. Indeed, he thought the wee varmint was going slick down his throat. Of course the little animal now had free run of the harness room, which was pretty well filled up with the assortment of goods which invariably collect in such places—an old boiler suit, the inevitable bottle of oil with its dusty feather, mole traps and rabbit traps complete with pegs, and a considerable display of harness.

“We’re in the soup now, Wullie,” I remarked. “You’ll have to mind it doesn’t get hold of your nose.”

“I’ll watch that, sor,” Wullie answered, a feat which would not have enhanced the beauty of this bright youth.

It was a sweltering hot day, and already the atmosphere of the little harness-room was simply awful. The stoat, during the excitement with the sack, had launched his first real gas attack. Some people are disinclined to credit that these animals have complete control of their musk glands, which

can be used in the same manner as those of the skunk, though of course to a less degree, and I most sincerely wish that any such disbelievers had been present at that moment. It would have removed the last shadow of doubt and the last traces of scepticism.

Meanwhile the stoat had whisked behind an empty soap box, and opening the window the merest crack we shouted to someone—anyone—to bring a pair of gloves, which duly arrived. I donned the gloves, and on all fours we stalked the soap box, gingerly drawing it away from the wall. But lo! The stoat was not there.

Next moment we heard a faint scratching, and were just in time to behold the black tip of his tail whisk into the narrow space between a press and the wall, three feet up from the floor. Finding a stick I proceeded to poke him out, which was not so easily done. There was only just room for him to squeeze up behind the press, but get him out I could not, while all the time he was keeping up a haunting, malicious chatter, much like the sound made by beating two flints together. Finally he came out of his own accord, head downwards, after the style of the pukka climbing animals, and I made a lightning grab at his head.

One might as well have tried to catch an eel under

water. Long before my fingers closed, he had slipped through my hand, and Wullie was trying to dab the sack over him at the other end of the room. He ran up the boy's clothing and up the vertical walls, in and out quicker than the eye could follow him. In fact I am not sure that he did not several times loop the loop across the ceiling. His quickness was beyond belief, and I was despairing as to our chances of catching him by hand.

Memory does not permit a detailed description of that sweating, odorous chase, but at length we lost him finally and for good. We poked behind the press, we piled everything in the centre of the room, we shook an old suit of dungarees and felt in its pockets, but the stoat was gone. Indeed, we had just about decided to pack up when Wullie shouted : " There he is on top of yon old saddle ! "

The saddle was at least eight feet up, and how the little animal had gained it unobserved, flattened out under the ceiling, was a mystery. I proceeded to climb up in the hope of gripping him, but knowing himself observed he made a terrific leap, landing on Wullie's head. He then scampered round the boy's neck and descended to the floor, for luckily Wullie wore a belt. In the end I grabbed him as he lay momentarily imprisoned under a heap of mole traps.

Of course the little creature bit and struck like a rattlesnake. The gloves I was wearing were none too thick, and I could feel the pressure of his jaws through them.

I think that neither Wullie nor I will ever forget that chase. The boy was just the right height for the desperate little beast to gain his shoulders, and it did so several times. Fortunately, however, Wullie regarded the whole thing as a joke, and entered into the spirit of it thoroughly.

I have often watched stoats hunting and marvelled at their swiftness, but this one afforded the most astounding illustration of meteoric movement in animal life that I have ever come across. The incident occurred on the Yester Estate of the Marquis of Tweeddale. Wullie is now under-keeper on a neighbouring estate.

RED DEER AND THEIR HAUNTS

THE tourist to the Highlands naturally expects to see deer, and he is rarely disappointed.

The number of them one sees, however, depends entirely on the weather. In fine settled weather, the deer for the most part are conspicuous by their absence along the recognised touring routes. To see them one must take the hill roads, most of which are good despite their narrowness, for at such times the deer stick to the high country.

But cold rain and high winds drive them down, and one is likely to see more deer in a single day's travelling, when the heights are draped with mist and the burns bank full, than one might see in a whole week of fine weather touring. Now the deer seek out the sheltered places and may be seen feeding in the ditches at the roadside or in the hazel thickets near-by. One day of rain and wind will not drive them down, but a few days in succession

generally render them visible to the main road tourist.

When last I visited Invergarry, the guests at the Hotel one evening were called out to see the famous white hart of the locality, which had suddenly shown up across the slope. Most localities have their famous white deer, past or present, and all sorts of stories are current concerning one or other of these beasts thus distinguished among its fellows. Thus we have the white hind of Rylston, which accompanied its mistress to Church, the ruins of which still stand on the hillside above the village of that name. And again the white hind of Lochtreig, which was known to four generations of sportsmen—father, son, grandchild, and great-grandchild. All these gentlemen were keen stalkers, and the first and the last of them lived to over eighty years of age. Thus this hind, according to the guesses of the stalkers of the day, lived at least 170 years, and probably 200 years. But the guesses of stalkers are rather like those of anglers, and however tradition may have it, we are fairly safe in concluding that the average red deer does not live much over 20 years. At one time it was thought throughout the country that deer rivalled the eagle for length of life—namely 200 years or more.

How cunning and sensitive and cautious these animals are, only the man who has tried to stalk them in a wild, unpreserved forest can form any idea. They are so timid that fawns and hinds have been heard to scream in terror at the sound of thunder, and I have myself seen deer bunch together and head pell-mell out of the locality on seeing an eagle hanging in the sky. They are so sensitive that they can tell when the wind is going to change two hours or so before it changes, and will shift their quarters accordingly, seeking always the most sheltered slopes and the most screened corries.

The tourist as a rule searches the skyline for deer, but it is rarely that they show themselves in relief. In passing from one feeding ground to the next they invariably stick to the hollows, peering over every rise before they cross it, and for ever testing the wind with their nostrils. So the inexperienced eye may see no deer at all even though they be more or less on every side of him.

In pictures of these noble beasts, the stag is generally shown leading the herd, standing with head majestically aloft to scan the horizon ere he leads the way to the glen, but in reality it is seldom that the stag leads. Generally it is a disreputable old hind who sets the routine for the day,

she who, by point of wisdom, has become their leader ; and the master stag strides idly in the rear, following the pace set by the hinds. If their pace does not please him, he may even slash at them with his antlers, driving them ahead of him, for like most polygamous beasts he is not remarkable for his chivalry. It is only when exceptional boldness is needed that the stag moves to the head of the herd ; he may lead the stampede, but he certainly does not lead in the daily walk on which the success of the herd depends.

When seen in the glen bottoms during wild weather, the deer are generally in herds, for they congregate about points of common attraction, but living their normal lives in the high country, the stags and the hinds live apart for the most part. So for nine months of the year an old stag and a young stag may live *en garçon* as inseparable chums, the young stag doing the watching while the other idles and leaves his companion to keep an eye open for danger. Normally deer keep to the highest, rockiest country, sharing the habitat of the ptarmigan and the peregrine.

At about the opening of the grouse shooting season, a change comes upon the stags. They become humped in the back like greyhounds, and swollen in the neck, and if now there comes a touch

of frost it precipitates the rut. Soon the stags are to be heard roaring in the glens and corries, and there is no sound in all wild nature more inspiring than the roaring of a big stag as it echoes and re-echoes among the crags. Truly he is a magnificent beast at this season, for he is in a mood to fight fire. The friend of yesterday is now a deadly foe, and when stag meets stag it is with feelings of dire enmity. Here a monster rolls grotesquely in the peat hag, till he rises black and dripping, slashing up the earth with his antlers and ploughing deep furrows with his knife-edged hoofs. Challenge answers challenge, and there follows the crash of antlers till the dry chips fly, but soon one of the combatants proves itself master, and the other is compelled to flee for his life. So the biggest and strongest harts appropriate the most hinds, which is not always a good thing, as very often the master stag is past his prime so far as the multiplication of the race is concerned. Thus one sees the necessity for shooting off the old harts so that the hinds mate only with the young and fit.

The stalking season varies in different localities, but it is all too short, for as the rut advances the stags fall off and soon are considered unfit to kill.

A little later hind shooting begins, and continues

through the winter. This very often affords excellent sport, though it is commonly left to the stalkers, and I can recall many splendid days stalking the hinds when they were down at the woodland borders, where the graceful birches were more than ever graceful in their coating of fairy frost.

In winter the stags drop their antlers, and they then retire to seclusion, devoting the remainder of the off-season to the development of a new pair. This process saps their strength considerably, and the savage onslaught of the Highland winter finds many a stag poorly equipped to withstand the cold and hunger. I have known deer to become so feeble that they have lost their fear of man, and I have seen a stag fall while striving to cross an icy burn, and, too weak to rise, he settled himself to perish miserably in the shallow water. So great is the drainage on the animal's strength caused by the annual growth of new antlers that the hummel or hornless stag may attain a much greater weight than his antlered rival, and having no heavy antlers to wield and carry, the hummel is not uncommonly master of the situation in the supreme contest for the wives.

The subject of antlers is a big one, but it is difficult to understand what useful part they play,

or have ever played, in the life of the hart which wears them.

So, for all his majesty, the wild stag of our hills is really a tragic beast, whose life is an unbroken succession of peril and hardship. From the day he lies in the bracken a dainty mottled fawn, till, rising from the peat pool, he rumbles his mighty challenge, he is a child of fear. Fear moulds all his ways, and when at length he turns to crash head-long among the boulders, leaving now the trail of his life blood upon the heather, falling, rising, crashing on, while the savage crack of the sporting rifle still echoes among the crags—his face is once more towards the glen, which he has ever sought in the hours of his need.

THE HAWTHORN BUSH

KEEN frost had held for about a fortnight, and every day packs of fieldfares and occasional packs of blackgame were to be seen perched in a dense hawthorn bush at the edge of the golf links, feeding on the berries with which the bush was laden. The blackcock, it was noticeable, came at regular hours, early in the morning and just before sunset, but one night about an inch of snow fell, covering the ground with a fresh layer. It was on the following morning that a blackcock was found lying about twelve feet from the bush. The bird was bitten through the neck, and the feathers that strewed the ground indicated that it had met its fate while perching in the bush.

An examination of the tracks in the snow was then made, and the following interesting and surprising facts were arrived at.

Evidently the fox, having several times noticed the blackgame feeding, and being unable to approach

them across the open, had taken hiding in the bush before daybreak. His tracks leading straight up to the bush and into it were clearly visible, and the bush was so heavily laden with snow that no doubt he found adequate cover in the thicket of thorns, for there, indeed, was his couch. Here he had silently awaited the arrival of the blackgame, whereupon he had leapt from his ambush and struck down one of the birds within his reach.

The fox was in the act of dragging off his gorgeous quarry when an interruption occurred. No doubt he had failed to notice the approach of a roe buck with his doe and her fawn. These had come up from the other side of the bush, so that, as the fox emerged from it, he came face to face with the buck.

Possibly the two had met before, and the fox was well aware that he had run foul of a formidable antagonist. At all events he had crouched over the blackcock, and the roe buck had come right up to him. The marks of the animal's hoofs were clearly visible in the snow where the fox had crouched, indicating that he had struck out forcibly with these sharp-edged forehoofs. The fox, however, had leapt aside in time to avoid the blow, and thereafter had circled round the bush, keeping for the most part well under the thorns, while the roe buck

followed, striking repeatedly with his forehoofs into the thicket.

From the number of tracks in the snow this had gone on for a considerable time, the fox being reluctant to leave his quarry, or perhaps fearing to make the dash across the fifty yards of open to the edge of the forest—knowing that the roe buck was swifter than he was. In the end, however, the fox had been compelled to make the dash, and the buck had pursued him the whole of the distance till the pine trees were gained, striking at the running fox as before, so that the trails of the two animals consisted of a zig-zag hither and thither across the snow. The fox, however, had safely reached cover, and the roe deer had returned to his doe and her fawn, whereupon the three of them had quietly proceeded to feed on the berries.

It was about nine-thirty in the morning when the blackcock was found, and the bird was in such an emaciated condition owing to the continuance of the cold snap that it was left where it lay, so that any further developments could be noticed. At about eleven-thirty, the observer again passed that way, and discovered that the fox had been back. He had taken up the blackcock and carried it away into the woods !

AN IDEAL AVIARY

A FRIEND of mine has a large aviary in which he keeps a number of British wild birds under conditions as nearly appertaining to freedom as captivity can permit. On the whole these birds live very happy lives, for within the area of their confinement green things grow, and they have shelter alike from sun and wind and rain. In addition there is a tiny spring of running water at their disposal, and along its gravel margins they are free to flutter and spray themselves, subsequently drying their feathers in the bed of dry sand placed for that purpose. The sand is treated with some germ-destroying agency, so that the birds are kept free of those parasite pests which so often detract from the comfort and health of caged birds. Their food is scattered broadcast about the aviary so that they have to hunt for it, thus obtaining natural exercise, so that whether they

appreciate the fact or not, they are at any rate free to live under ideal conditions.

Nevertheless some of the wild birds whose lot it is to live there never settle down to their captive existences. The bullfinches, goldfinches, linnets, redpolls, and siskins are all perfectly happy. Occasionally one of them gets away, but after a few hours of freedom it invariably returns, and is to be seen searching for hours on end for a way in, clinging to the wire-netting and calling to its friends. Generally it becomes so absorbed in the task that it is an easy matter to pop a hand net over it, and to restore it to the interior of the cage.

All the birds just named have been treated in this way at one time or another, so it would seem that captivity is not to many of our wild creatures just what our super-sensitive imaginations are apt to picture it. Quite the majority of our small birds, if given an ample cage to move about in, are just as happy there as they would be wild and free.

But, there are others—others which never free themselves from the habit of flying against the wire, and which never lose their fear of man. If one of these be given its freedom, one thing is certain—that it will not return to the scene of its captivity. Among these my friend mentions the skylark, the twite, the common thrush and the

missel thrush, the yellow-hammer and the chaffinch. Individuals vary greatly, but whereas such birds as the bullfinch and the siskin become perfectly tame, even though introduced to cage life after they are adult, others retain their wild characteristics no matter how long they are kept in captivity. Always they are glad to get back to freedom when the chance comes.

There is something appealing in these wild spirits to whom food and shelter and plenty are of secondary account compared with their desire to live their own lives amidst their native settings, nor need we seek far for their counterpart amidst scenes which are far more familiar. All through nature one finds the same thing ; certain birds and beasts seem able to live down their distrust of mankind, others never succeed in this. I once had a coyote cub which I reared from babyhood. It never had cause to distrust anyone, and it was kept under conditions which were all in favour of its happiness, but no !—as soon as the little animal was able to feed itself its attitude towards mankind was one of savage distrust, and if it could sneak away and hide on man's approach, it would invariably do so. Other wild beasts I have kept—badgers, racoons, a blackbear cub, and on one occasion a fox—all learnt to reciprocate in course of

time to gentle handling, yet another fox I had from a small cub was just as wild as the coyote. The hatred of man must be very strongly ingrained in these creatures which can never live it down, even though in practice they have no cause to hate anyone.

Returning to the subject of birds in aviaries, another bird keeper in my locality suffered a greivous loss recently. He had a very fine collection of small foreign birds, which lived in an aviary by his house. Inside the aviary there was a heating stove for the winter months, and from it a tin chimney pipe led vertically through the roof to conduct away the fumes.

A little while ago, when the stove was out of use, he went in one morning, and found all the birds dead. There they lay in a neat little pile in the centre of the floor with no indications upon them as to the manner in which they had died. The aviary was scrupulously examined, but there was not a nook or a crevice by which any creature larger than a garden beetle could have entered. So the owner was forced to the conclusion that a stoat or a weasel had found its way in via the chimney pipe and the stove, and that, having done its murderous work, it had escaped by the same way.

This, indeed, was the only possible explanation, yet it was strange that the murderer had made no attempt to carry away at least one of his victims.

CAMOUFLAGE

WALKING one cold winter's day near New Galloway (Kirkcudbrightshire) I chanced to look over the wall top into the silver birch forest which fell off sharply from the roadside. Snow and ice reigned everywhere, and so keen had been the cold snap that even the grouse were in packs, passing from slope to slope at regular hours, and sometimes in such numbers as veritably darkened the sky. Practically every spring in the country was frozen, and many rare water fowl were to be seen gathered about the open patch of water at the north end of Loch Ken.

Here in the birch forest, as elsewhere, winter reigned supreme. A French naturalist once observed that in our country there is a chaffinch to brighten every branch, but where now the chaffinches, where the yellow-hammers, where even the snow buntings? It seemed that all bird life had left us for a gentler clime, for never were

the woods so silent and so devoid of moving things.

Thirty or forty yards below, a small spring rose from among the dead bracken, a spring which, though it rises on the sunless slope of the range, has never been known to freeze. Probably it rises from a great depth underground, for even in the coldest cold snap, such as this, cat-ice rarely collects along its margins, and the sand remains quite soft for some distance on either side. It is also noticeable that the flowers along its banks are the first to mature in spring, and I have seen primroses blooming there so early that elsewhere in the land scarcely a primrose leaf had unfolded from the earth.

To-day, in the general cheerlessness, the first thing that caught my eye was a great cloud of mosquitoes dancing over the hollow of the spring for several yards down. Mosquitoes, mind you, astir and dancing, though the thermometer must have registered at least six degrees of frost! I stared almost incredulously, and as I stared, something which hitherto had been a chunk of decayed wood at the water's edge, suddenly moved. I could swear, at any rate, that I had seen movement of some kind, yet as I readjusted my eyes, nothing to account for it was discernible. There were the

frosted leaves and the rotten logs, with here and there a decaying roll of birch bark and a dead clump of ferns, but nothing living, save the mosquitoes, could I find.

Yet again that faint suggestion of movement, and this time its exact whereabouts was marked down; and among the dead leaves, as though a part of them, I slowly outlined the form of a grey hen. She was standing with feathers puffed out at the water's edge, at intervals wriggling her head against her back feathers, and this was the movement I had seen.

Where there was one grey hen, there would assuredly be others, so I examined the ground carefully, and knowing now for what to look, I soon made out that a mound of leaves nearby was not a mound of leaves at all, but yet another game bird, and behind her a third and a fourth. Within three minutes I had counted nine grey hens within a few feet of the first, each matching its surroundings so closely that even Reynard, the keen-eyed, might have trotted along the opposite bank without noticing one of them. Subsequently I learnt that this particular pack was to be found each morning at this place for so long as the cold snap lasted. There, having drunk, they would sit for an hour or so before flying off to foregather in the branches of

the alders along the loch margin, craning their necks for the bone dry catkins.

It is a strange fact that in the case of polygamous birds, the male is often attired with no special regard for protective colourisation, whereas the female of the species is so wonderfully camouflaged that it takes a keen eye to pick her out amidst her ordinary surroundings. We could have no more striking example than that afforded by the blackcock and the grey hen. Could anything be more conspicuous than black and white? Could anything be less conspicuous than the faded leaf and milk and coffee hues of the grey hen's plumage? The pheasant is gaudily attired, but no one can say that he is conspicuously attired. He himself knows well the wonderful harmony of his dress, for he will run and crouch among the leaves sooner than make himself conspicuous by flight. Yet, compared with the hen pheasant, he stands out like a draught-board on a bed sheet. Among certain surroundings he may be inconspicuous, but among *any* surroundings the hen pheasant is inconspicuous. She matches the faded leaves as closely as he does, she matches the grey highway, she matches the wall stones, and even when she sinks into the level of a green field, she escapes the eye as some natural feature of the landscape.

Of the grey hens I had picked out, the most marvellous example of protective colouring was afforded by one which sat on a decaying root two or three feet from the ground, for so exactly did she match the root that though her outline was distinct, it was almost impossible to concentrate one's gaze upon her as a separate feature, and raising my head for a better view, I betrayed my presence to the birds, and instantly there was a loud burr of wings. But behold, not merely nine grey hens rose from the patch at which I had been staring, but probably twenty of them, and flying heavily through the branches, they made off towards the swamp!

I then climbed over the wall to investigate their habitat, whereupon two woodcock rose from the water's edge almost at my feet. Truly one never knows how little one sees where the Wild folk are concerned!

THE USURPER

AT the foot of the Lammermoor Hills in Midlothian there is a swampy patch in the centre of a twelve acre fallow field. The swamp covers, perhaps, two acres of ground, and though in winter it is generally under water, in spring it begins to dry, and if we have a hot summer the area often becomes cracked and parched between the clumps of bulrushes and coarse swamp grass. The ploughman works his share judiciously round this unclaimed area, which, in the midst of the fertile wold country, forms, as it were, a little sanctuary for the wild birds which love wild places. It is always worth a visit on account of the wonderful variety of bird life it attracts, and looking down from the hills it often forms quite a landmark on account of the white gulls which congregate along the swampy margin.

Watching through one's glasses, the groups of birds standing about or leisurely feeding in the

shallow water provide a very pretty picture, which calls to mind some of the works of Thorburn, and other nature artists. In winter I have seen teal and tufted duck mingled with the throng, while mallard frequent the place the year round. A few snipe, both common and Jack snipe, are always about, and as spring draws near, all kinds of birds which winter along the coast throng inland to their breeding haunts in the hills. Red-shanks, golden plovers, green plovers, curlews, sandpipers and dunlins are always to be seen, but the oyster-catchers with their striking plumage and orange bills are the most handsome of all the motley throng. One spring several black-headed gulls nested there, but the nests were robbed and they did not return. The peewitts and one or two sandpipers nest there annually, but the other birds come and go, apparently regarding the swamp purely as a feeding place and a general rendezvous.

Thus, during the spring and summer, there is a constant chorus of wild bird voices rising from the centre of the field day and night, and one night last April I chanced to be motoring along the by-road which runs about half a mile from the swamp, when I realised that far more noise than usual was going on. So great was the hubbub, indeed, as to

be distinctly audible above the noise of the travelling car, so I stopped the engine in order to hear more distinctly. It sounded as though about a hundred curlews had their sirens in full blast, high overhead a snipe was drumming, the sandpipers were piping and the peewitts pee-witting, while the screaming of the gulls resembled the creaking of rusty chain hoists in the side dock of a ship-breaker. Clearly some enemy was invading the sanctuary—probably a fox, in search of plover eggs, or perhaps a band of stoats hunting for sitting birds. Here, at any rate, was the promise of a story,^fso next day I went along to search for evidence.

Nor was it necessary to search long, for at the edge of the swamp were the trampled and partially devoured remains of a lapwing, which had met its fate quite recently. Clearly the gulls were the cause of its mutilated condition, but I did not think that the gulls were responsible for the murder. A train of feathers led across the swamp for several yards from where the dead bird lay, which seemed to indicate that the lapwing had dragged its assassin some distance ere it was finally over-powered. At the other end of the train was a litter of feathers marking the point at which the encounter had opened, and there too,

almost trampled out of recognition, were the footprints of a large house rat!

This discovery was somewhat surprising, for, be it clearly understood, we were at least four miles from anything resembling a village, and there was no farm steading near. The house rat is nothing if not enterprising, and this old reprobate, I soon found, had taken up permanent quarters in the swamp, for the signs of his presence were on every side. Evidently he had settled himself for the summer months to impose upon the peaceful society which he had no right to enter—to live by stealing their eggs, or even by pouncing, tiger fashion, upon the birds themselves, as was the case with the lapwing. One wonders what would have happened had he assaulted one of the gulls, for there is a free-masonry among these gentry; but I rather imagine *mus rattus* would have been too wise for that.

The keeper's bothie was not far off, and I had heard the yapping of his terriers as I passed. Tough little wire-haired Welshmen, those terriers, whose real line of business was along with mountain foxes, and half an hour later they were industriously hunting the swamp for the lair of the impostor. Overhead the wildfowl screeched and clattered, resenting our presence on their preserves, and little

thinking that we were there to rid them of a very undesirable alien.

Eventually the rat was driven out from a clump of rushes, whereupon he turned, screeching viciously, to fight like a wild cat. Somehow he managed to fix his yellow teeth through the nose of one of the terriers, hanging on so tenaciously that the dog had much difficulty in shaking him off. That achieved, however, the alien rasped out his life in one fading, saw-edged screech. Subsequently we found this creature's lair, which, in general arrangement was not unlike the nest of a snipe. Deep down among the rushes but on a fairly high point, he had hollowed out a chamber, and lined it with scraps of dead rush gnawed into convenient lengths. From this well-roofed apartment little alleyways radiated in all directions through the rushes, and near to the nest was the rat's store chamber, to the possession of which he was welcome. It contained the entrails of, apparently, several birds, but circumstances did not invite investigation as to species, and also there were stained and broken fragments of peewitt and curlew eggs. The havoc that this renegade would have wrought amidst the law-abiding community had he been left in possession of his quarters through the nesting season, is not difficult to imagine, and it is refreshing

to know that there *are* occasions when the passing of man and his dogs can bring peace to the sanctuaries of the Wild.

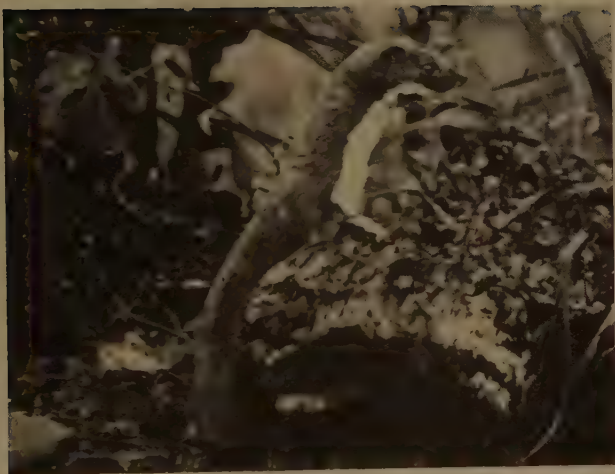
WEASELS WHICH HUNT BY HEARING

THAT all our weasels, excepting possibly the badger, hunt very largely by their hearing, no one who has studied their natural habits can doubt, and it would seem that their sense of hearing, as in the case of the owl, is developed to an almost incredible point of sensitiveness. Watch a stoat hunting when he is unconscious of an eavesdropper, and he will be observed to sit bolt upright at regular intervals, at least once a minute, adjusting and re-adjusting his direction of travel after each such pause. That he is listening for sounds which serve to guide him—and sounds, moreover, often so small and far distant as to be inaudible to human ears—I have proved to my own satisfaction. For example, one evening, some years ago, I noticed a stoat sitting in this characteristic attitude at the corner of a rough pasture behind the village of Burnsall in Wharfedale. So closely

did he resemble the vegetation about him as to be almost invisible, and for two minutes he sat without moving. Then he set off at a brisk pace, and in a manner which clearly showed that he was aiming for some decided goal, and keeping out of sight behind the wall he was following, I managed to keep count of his movements across two or three fields. Fully three-quarters of a mile from the point at which I had sighted him, he whisked into the wall of an isolated barn, and he had not been there many minutes ere it became evident that the place was a stronghold of numerous rats, which had taken up their summer quarters there.

There seemed no doubt that the stoat had heard the rats from the distance indicated, and my subsequent studies of these little killers inclines me to accept the view that their minute hearing plays a far more important part in their hunting than their sense of smell. It is a known fact that stoats and weasels are able to hear sounds—such as the screaming of the mole—too high-pitched for human ears to detect.

Whether the otter, which is the weasel of the water, is guided in the same way as to the whereabouts of fish when diving and swimming is an unanswerable question, but that otters, like stoats and lesser weasels, are given to the same habit of



A WEASEL LISTENING.



AN OTTER.

sitting bolt upright when on dry land, would seem to indicate that they possess the family characteristic. There is, further, a good deal in the habits of the otter which would seem to prove that their hearing is of very considerable value to them, for very often, particularly in the spring of the year, an otter will leave the parent stream in order to visit some obscure pool far back in the woods for a feed of frogs. I remember coming across one such case in the valley of the Knocknarling Burn, near New Galloway, N.B. The pool was not more than ten feet in width, and at some two hundred yards from the burn. So screened and hidden was it that I myself discovered it by the merest chance, to find its banks littered with the remains of frogs, while numerous otter tracks in the mud furnished the required proof. And again, I remember one M.O.H. who never omitted to draw a small, circular cattle pond which stood at over a mile from the river and completely out of the range of travelling otters, and almost as often as not an otter was found harbouring among the roots of the trees which shadowed the frog-infested pond. So the question arises—how do the otters locate these springtime frog harvests unless it be by ear?

We need to bear in mind that otters, like most wild weasels, are of gipsy habits, and are constantly

finding themselves in strange country, a condition of things which lends support to the theory that, at least in so far as frog hunting is concerned, they use their sense of hearing very considerably. But evidently otters have some other sense which we do not share, for they are able to detect the presence of fish under ice. The Indians know well, and I myself have observed, that if an otter forces his way into an ice-bound pool, there are fish in that pool, whereas the same animal will pass other pools which contain no fish without leaving the bank. Thus, by observing the otter tracks in the snow, the red-skinned hunter knows where to set his fish traps, and he considers no sign more infallible.

CONCERNING THE ROEBUCK

IT was a quiet evening. Dusk was just gathering, and one's footsteps sounded surprisingly loud on the granite of the narrow road. Little woodlands of fir and pine bordered the way every here and there, but for the most part the valley was thinly timbered, consisting of hills and hollows carpeted with bracken and heather. Woodcock were flying everywhere, appearing now and then against the cloudless sky, but vanishing immediately.

Presently I heard a sharp yap, exactly like the bark of a terrier, and instinctively "froze in my tracks." There was a moment's pause, then, directly opposite me, not twelve paces away, a little roebuck stepped into the centre of the road, and regarded me with head aloft. I saw his big bright eyes shining in the afterglow of the sunset, but almost instantly he turned, and lightly bounded the low march wall on my left, his bobbing white rump

marking the course that he took as he crashed through the dark shadows. And following him, tapping the centre of the road with their hoofs and seeming merely to ricochette over the wall at his heels, came six other roe deer, five does and a fawn, and as I watched the line of white rumps vanish into the shadows, the silence closed again, broken only by the grunting and squeaking of woodcock. Such is one of my vivid impressions of the roe deer at home, an impression of furtive wild life, wild as the hills, obtained during an evening tramp in Dumfriesshire.

In the Highlands, one sees little of the small woodland roe deer, which must not be confused with the big red deer of the mountain tops, nor with the mottled fallow deer of enclosed parks. If one sees anything of a roe at all in most Highland forests it is merely a glimpse of that flashing white alarm signal, by which the news of danger is semaphored from roe to roe, while the animals seek the densest cover with all the speed they can muster. They are a good deal wilder than the wildest March hare that ever nibbled a Swede, and for the very excellent reason that the roe is often shot at sight. They are very destructive to cottager's gardens and to young plantings, and it is thought that the roe does little to pay its way. It inhabits the dense

thickets, and is too cunning to be driven out into a line of waiting guns. It is too alert to allow itself to be stalked, and though one may see a good many roe when one has no gun, it is quite a different matter trying to get a shot at them when once they have heard a gunshot near their native wood. They then simply vanish as though the very air had dissolved them, and though the wood may be full of roe, only one or two, if any, break cover before the beaters. The others, by their familiarity with every inch of their home range, manage somehow to double back and get behind the cordon of men, or alternatively they crouch like hares in the densest spots and allow the beaters to walk over them. Once or twice, when pheasant and blackgame shooting in the woods, I have seen a roe deer standing at a considerable distance from me, watching me keenly, but always in such a position that there was a tree trunk directly behind him or between him and me, and serving to break the outline of his body. The animals seem to know, moreover, directly they are seen, and no sooner have you caught sight of one than he is up and away, "yapping" the warning to his companions if he happens to be accompanied.

One roe I knew of evaded the gunners time and again by standing perfectly still under a boulder of rock exactly the same colour as himself, but

eventually the dogs discovered his secret, and he never again tried that trick.

In Dumfriesshire and Kirkcudbrightshire the roe deer are nothing like so wild as they generally are in the Highlands proper. They used to come down to the garden almost every night on Loch Ken, but such was their stealth that it was difficult to catch them at it. No matter how carefully one planned the ambush, that sharp, terrier-like yap would warn you that you were discovered just too soon. I have repeatedly seen roe deer walk through a wire mesh deer fence as though it never existed, and the deer fence that is to keep them out must indeed be flawless and well erected.

Though the roe deer is a lover of swampy woodland retreats, I have, nevertheless, known it to live on the bleak mountain heights in the realms of the red deer and the blue mountain hares. I once saw a shepherd knock one down by throwing his stick into its forelegs as it rose from the heather almost at our feet. But they are never so abundant on the heights as they are in the woodlands, though at certain seasons the bucks leave the does and choose such surroundings. Generally speaking the low country is their favourite environment, excepting during the heat of the summer, when the flies are most troublesome, and

when they are given to wending their way to the breeze-swept mountain slopes.

The roe deer is very much of a stay at home animal, and where they are fearless of man, the same two or three individuals may be seen day after day about the same patch of woodland. At night time, however, they are given to wandering far afield ; they may raid the keeper's garden a mile or two down the loch margin, or again they may seek out a certain swampy stretch in the hills, where everywhere there are signs of their frequency, yet where, for some strange reason, none of their kind is even seen during the daylight hours.

The roe deer has few points in common with the big red deer of our preserved deer forests. Its mating habits are entirely different, and it is far better able to take care of itself. It is the hardiest of our wild deer, besides being the most abundant ; yet how many people are there who have never heard of, far less seen, a roebuck alive and free ?

As regards the red deer, the king of the Scottish heights, it is only during excessively keen winters that they are to be seen down at the wooded levels, the common haunts of the roe. Then, indeed, cold and famine may drive them down, but at other times the red deer is to-day even more essentially a creature of the great heights than is the white

mountain hare. I have repeatedly shot white hares, and many of them in a single day, at least two thousand feet lower than the topmost ridges, but except at night time the red deer do not come down to these levels. That they come down occasionally after darkness is indicated by their slot marks in the peat hags a little above the timber line, by their wallows in the peat pools, and by the fragments of broken antlers one occasionally picks up—broken during the fighting of the rival stags in the rutting season. They are less alert than roe deer, and I have good reason to know this, for more than once I have lost a fine stag owing to a roe rising from the heather some distance away, and very effectively spreading the alarm. Deer—red deer—for all their alleged wariness, are not capable of seeing such great distances as we are, for many a time I have stood plainly in view of a herd only a mile away, and so long as the wind was in my favour they seemed quite incapable of seeing me.

The roar of the stag during the autumn has many times been described as one of the most impressive sounds in wild nature, but one might go still further and say that, enhanced by the echoes of the boulder-girt corrie, it would prove to the city dweller one of the most terrifying. Some idea of the immense strength of a stag can be gathered by the power

and depth of his roar, and heard at night time alone in the hills and only a few yards away, as I have often heard it, one's native instincts begin to question whether this is a healthy neighbourhood. It always seems, indeed, that the king of the mountains is voicing his resentment at *your* presence on his sacred territory, and the fact that you cannot see him seems to add point to the sensation.

Mountain stags rarely exceed 20 stone in weight ; 16 stone is nearer the average, though imported stags run much heavier than the native stock.

The mottled fallow deer with the palmated antlers is midway between the red deer and the roe in size. This is the tame deer of our parks, and like the roe it is a lover of woodlands, and seldom frequents the barren mountains which the red deer loves. The fallow is a very delicate deer, which would soon cease to exist were it not fostered and protected by man. It is to be found in a wild state in the New Forest, in parts of Devonshire, and in the wilds of Blair Atholl. Though so much smaller, it is every bit as beautiful as the red deer, but is not considered such a fine sporting animal.

Roe-deer stalking is, I consider, just about the finest sport this island provides, but it has very few devotees. Among the roe-deer hunters I have met,

Mr. Macpherson-Grant, second son of the third Baronet, is among the most experienced and successful, and strangely enough we chanced to meet—at that time two of possibly a half dozen roe-deer stalkers in Scotland—on a mountain top during a motor car speed trial. Needless to say, roe-deer became the matter of conversation, to the exclusion of motor cars and the interests which had drawn us there.

Roe-deer stalking lacks none of the true essentials of sport. Stalking skill of the highest kind is needed, and the hours of activity being between sunset and sunrise, good marksmanship is needed, while in most cases it is desirable to camp or caravan in the woods, roe-deer woods generally being remarkable for their fairy-like beauty. The appended table of weights, selected as typical from Mr. Macpherson-Grant's many notes, I particularly value, as dependable records of roe-deer weights are conspicuous by their absence. Attention should be drawn to this sportsman's record buck—63 lbs. as it fell, less blood, 38 lbs. carcase weight. I personally have never killed a buck I could not double up and carry, with legs protruding, in my game bag—possibly along with other game.

On one occasion Mr. Macpherson-Grant killed five normal headed bucks (i.e. six points) and on

two occasions two normal headed (six points) in single nights hunting between 7 p.m. and 6 a.m.—all stalked. Two and four pointers were not fired at.

The following is the list of roe buck weights just referred to:—

Invermoriston—

Blairy ... I Buck 48 lbs. as he fell less blood, 17 lbs. carcase weight.

Balnult ... I ,, 50 lbs and 19 lbs.

Ballindalloch—

Annie McCulloch I ,, 56 ,, ,, 31 ,,

Kilnmaichlie ... I ,, 45 ,, gralloched, 35 lbs. carcase.

Christie ... I ,, 61 ,, and 36 lbs.

Tomnaglein ... I ,, 57 ,, less blood, 48½ gralloched, 35 lbs. carcase.

Kilnmaichlie ... I ,, 53 ,, ,, ,, 47 gralloched, 32½ lbs. carcase.

Blackgate ... I ,, 32 ,, gralloched, 24 lbs carcase.

Tom-an-Ime ... I ,, 46 ,, less blood, 28 lbs. carcase.

Phonas ... I ,, 46 ,, ,, ,, 25 ,, ,,

,, ... I ,, 56 ,, ,, ,, 34 ,, ,,

Clachnagoibnre I ,, 51 ,, ,, ,, 45½ gralloched, 29 lbs. carcase.

Christie ... I ,, 47 ,, ,, ,, 29 lbs. carcase.

Phonas ... I ,, 46 ,, ,, ,, 26 ,, ,,

,, ... I ,, 58 ,, ,, ,, 35 ,, ,,

Coldwells ... I ,, 56½ ,, ,, ,, 31 ,, ,,

Drum ... I ,, 46½ ,, ,, ,, 25½ ,, ,,

312 NATURE FROM THE HIGHWAYS

Phonas ...	... 1 buck	57 lbs. less blood,	49 gralloched,	
			36 lbs. carcase.	
" ...	... 1 "	52 " "	45 gralloched,	
			30 lbs. carcase.	
Cragganmore ...	1 "	62 " "	34½ lbs. carcase.	
Craigroy ...	1 "	58 " "	33 " "	
Christie ...	1 "	63 " "	38 " "	

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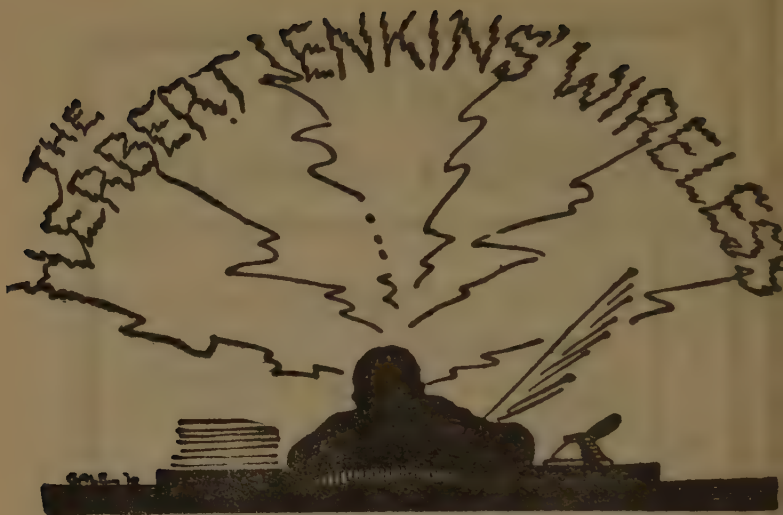
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